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NATIONAL FISHERMAN

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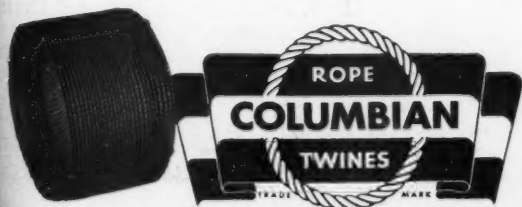
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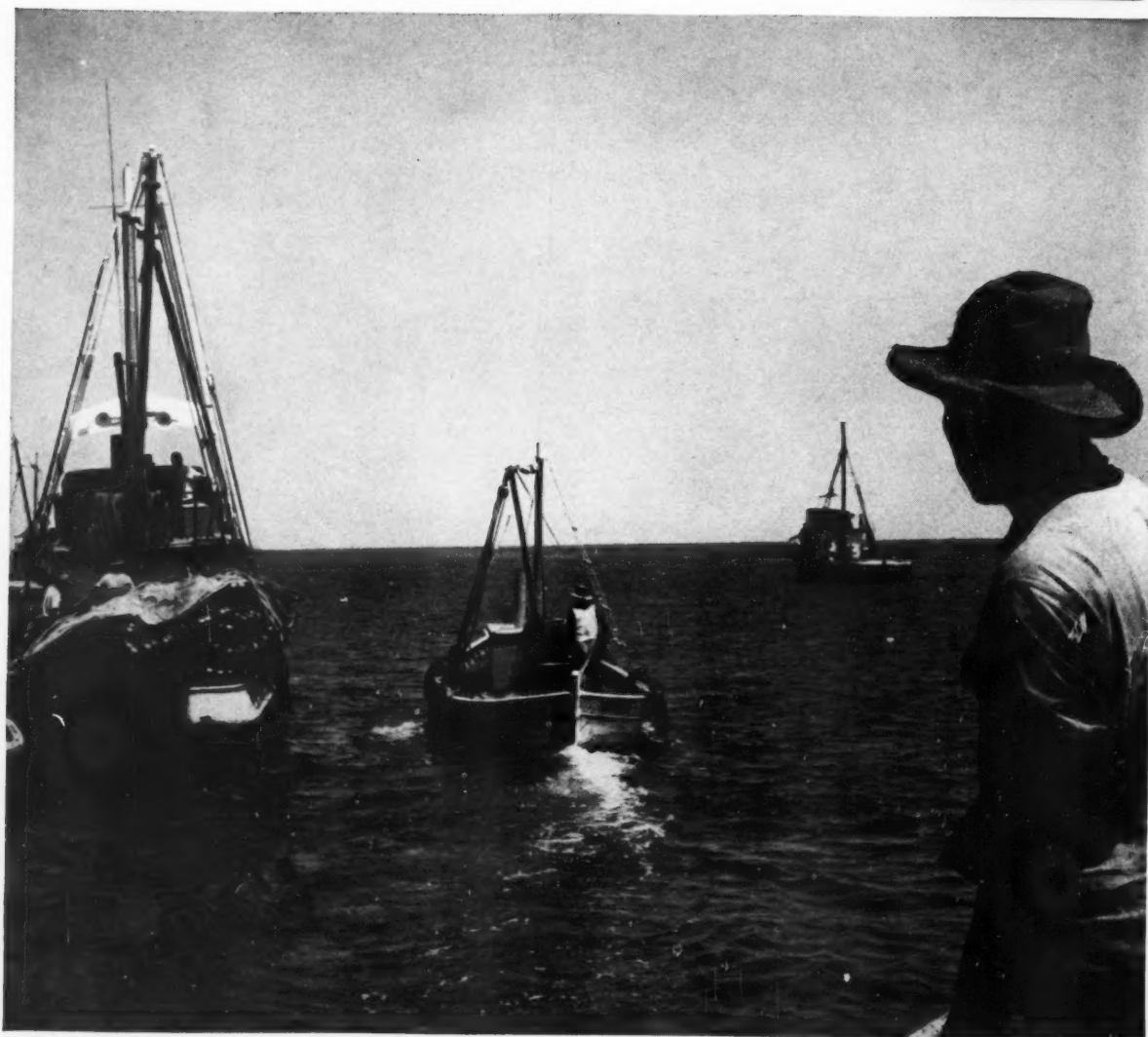
Warp are so widely used wherever lobster pots are put out. With either Copperized (green rope) or Red Kopper (red rope) treatments, these ropes are strong and supple, non-kinking, and easy to handle even after long submersion. Buoyline and Lobster Pot Warp are also available in Tarred Rope and in Regular Rope. Like all Columbian Manila Ropes, these lobster lines are fungi-static treated to prevent rot and mildew.



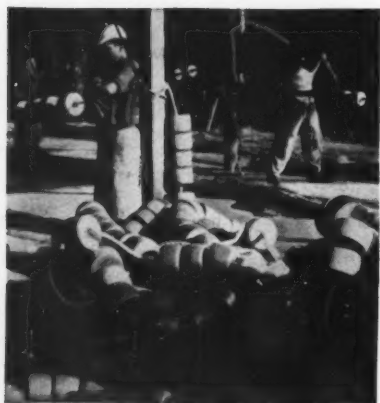
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MARCH

The Lookout

Anti-Pollution Program

A frontal attack to halt Federal aid for construction of sewerage treatment plants is apparently underway in Washington, according to David H. Wallace, Director, Oyster Institute of North America.

Even though the program has been in operation for only a little over a year, opponents of the Water Pollution Control Act are trying to persuade the Executive branch of the government to use its influence in having the enabling legislation repealed and/or eliminate matching funds from the budget. In calling for an all-out effort by the oyster industry to continue the anti-pollution program, Wallace stated:

"Widespread, indiscriminate pollution of our public waters has been one of the disgraces of our country. The trend in the development of our economy is toward greater utilization of the shores of brackish rivers and bays for residential and industrial sites.

"Since we have this ever increasing pressure to utilize our Bay shores, it becomes more important than ever (1) to insure that the adjacent waters will remain at least as free of pollution as they are, and (2) set up a comprehensive program to assist in reducing pollution. The present Pollution Control Act is working toward both of these goals. The joint Federal, State, Municipal program to aid in financing construction of sewage disposal plants is of paramount significance.

"The progress made in this work in a year has been astounding. The Federal government is authorized to spend no more than \$50,000,000 per year on such aid, and yet the estimated cost of the projects now being processed or approved amounts to \$871 million. I am assured by competent observers that most of the projects in the tidewater areas of the United States would not have been started without this aid.

"Projects are now going on in almost every shellfish producing State. Many of the towns and cities have used pollution of shellfish areas to justify their applications for funds. When these projects are completed, some improvements will have been made in our tidewaters, but a job of staggering proportions remains to be accomplished.

"Probably no industry in the country is more vulnerable than ours to pollution. We are damaged even when the shellfish are not killed, because they are considered unfit for food if the area is designated as polluted. It is essential to our industry to have this program continue."

NATIONAL FISHERMAN

The Fishing Industry Magazine

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CONTENTS

Research at Bears Bluff Has Practical Slant	9
Tuna Clipper Mary Barbara Tenth in Series	10
Winter Fishing on Lake Superior	11
Keeping Your Outboard Motor in Top Shape	12
Trawler "Caribbean Sea" is 700th Fishing Boat	13
California Group Seeks to Improve Salmon Industry	14
Maine Sardine Council to Promote European Sales	17
Long Island Oyster Business Discussed at Conference	19
Annual Virginia Fishermen's Association Convention,	20
Texas Fishermen Form Aransas Shrimp Association	23
Mississippi Group Plans Aid For Oyster Industry	24
Boat Insurance Study Completed	28
Radio Rules Being Enforced	39

REGIONS

North Atlantic	17
South Atlantic	20
Gulf of Mexico	23
Great Lakes	26
Pacific Coast	14

DEPARTMENTS

Fishery Progress	7
Equipment & Supply News	32
Boat Catches	35
Where-to-Buy Directory	40
Foreign Bailings	41
Boat & Gear Mart	42

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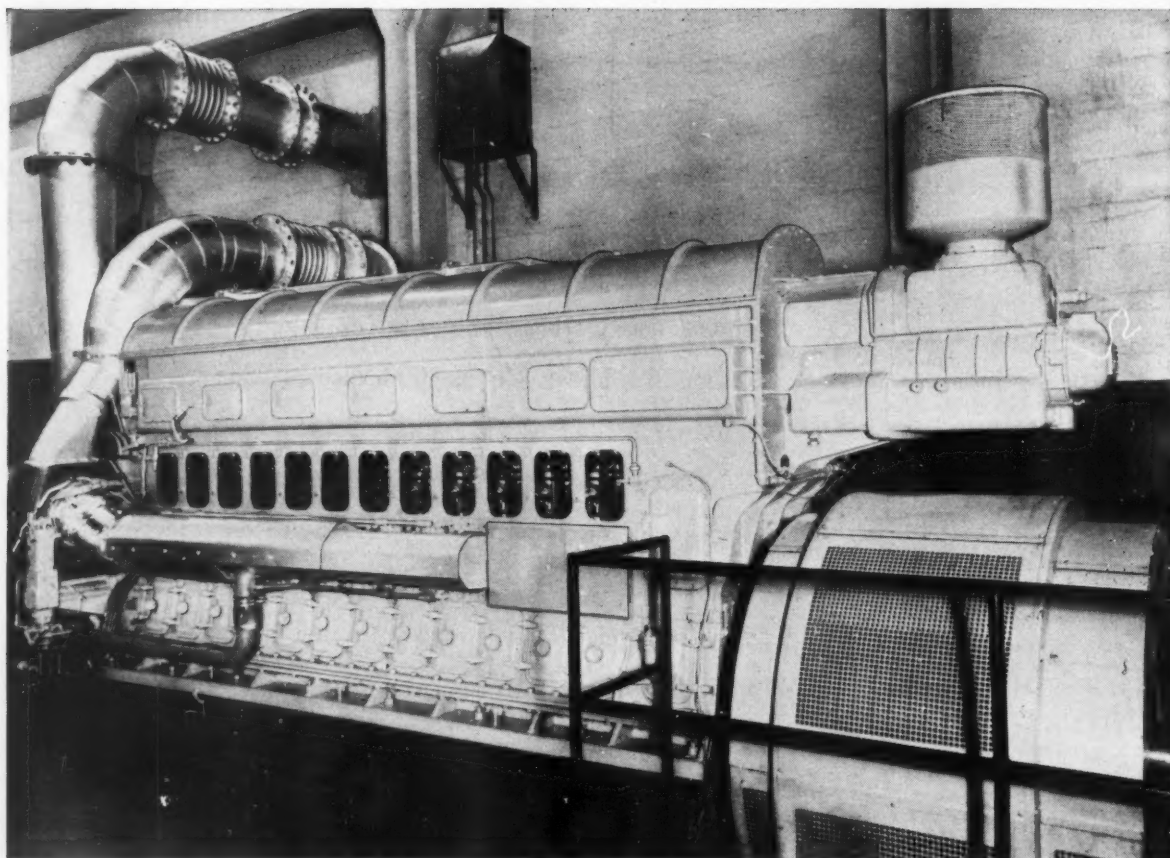


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NOW Fairbanks-Morse TURBOCHARGED

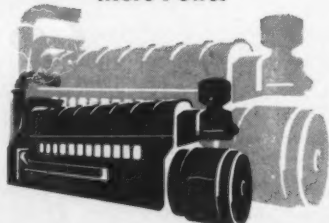


Now from Fairbanks-Morse comes the year's most significant power news: the Opposed-Piston diesel is turbo-supercharged!

Backed by 20,000 hours of actual operation and research, this new, yet proved, design increases O-P horsepower by 50%. At 900 rpm., for example, the turbocharged O-P is conservatively rated at 300 hp. per cylinder. Combining simple, two-cycle

Opposed-Piston design of engine with new Fairbanks-Morse-designed system of turbocharging produces compact, reliable power with low operating and maintenance costs. None of the basic O-P advantages have been eliminated. In fact, many parts are interchangeable between turbocharged and non-turbocharged Opposed-Piston engine models.

More Power



The un-turbocharged O-P is the industry's leader in compact power... now 50% more power can be placed in the same installation with the same size turbocharged O-P.

Lower Weight



—per horsepower. Increased O-P power is more widely applicable where weight and foundation costs are restrictive. Weight per horsepower has been reduced by 27%.

Increased Thermal Efficiency



The new, performance-proved thermal efficiency of the turbocharged Fairbanks-Morse Model 38TD-8½ O-P diesel is knocking on the door of a new high of 40% efficiency.

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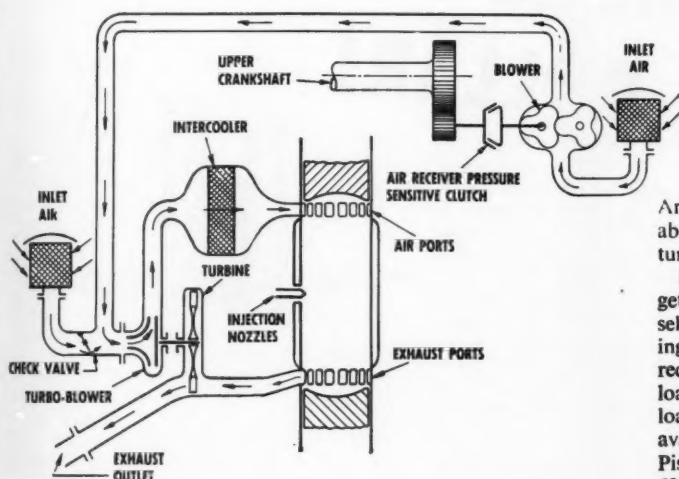
DIESEL A



F-M
energy
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OPPOSED-PISTON DIESEL 50% MORE POWER

for Marine and Stationary Applications



Matched Engine and Turbocharging

Analysis of many turbocharging options established the above arrangement for optimum performance of the turbocharged Opposed-Piston diesel.

Exact matching of O-P engine and this system, together with manifold design, results in an engine that is self-sustaining over the entire load range, including starting. The small engine-driven auxiliary blower meets the requirements of sudden, large load changes at fractional loads only—and is automatically declutched above $\frac{1}{3}$ load. Power formerly used for blower drive is therefore available at the flywheel of the turbocharged Opposed-Piston Diesel. Fairbanks, Morse & Co., Dept. NAF-3, 600 S. Michigan Ave., Chicago 5, Ill.



FAIRBANKS-MORSE

a name worth remembering when you want the BEST

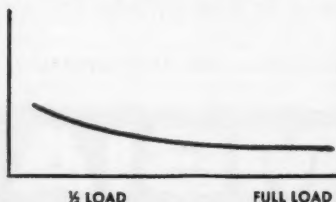
DIESEL AND DUAL FUEL ENGINES • DIESEL LOCOMOTIVES • RAIL CARS • ELECTRICAL MACHINERY • PUMPS • SCALES • HOME WATER SERVICE EQUIPMENT • MAGNETOS

Pulse System



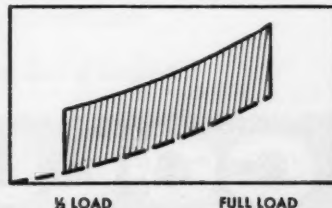
F-M exhaust manifolding carries peak pulse energy directly to the turbine drive, thus taking full advantage of additional driving force available in these exhaust pulses.

Lower Fuel Consumption

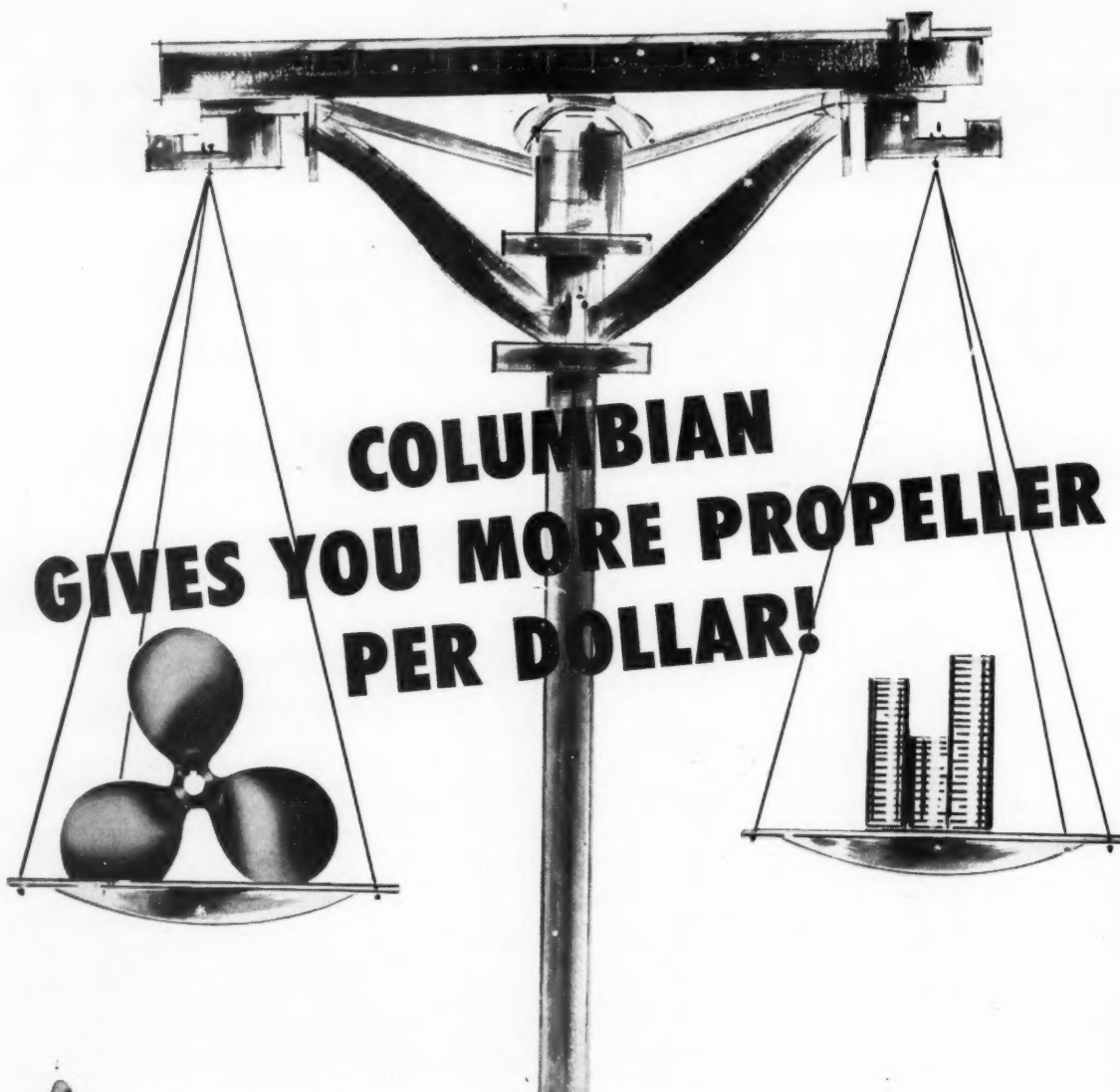


For full-load operations, specific fuel consumption of the turbocharged O-P is 5% to 10% lower than un-turbocharged O-P—and very much lower for part loads.

Bonus Power



At loads above approximately $\frac{1}{3}$ rating, the auxiliary blower is automatically declutched, thus making additional, usable power available at the flywheel.

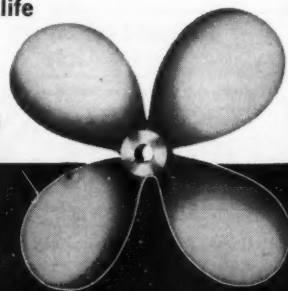


You get more from **Columbian propellers** in many ways. They are made of the best alloys for the particular job, including **ELECTRALLOY** produced by low frequency electric induction melting. This major development, unique with **Columbian**, results in high ductility, multiple reparability and easy welding. **Columbian propellers** are heavier where required without carrying unneeded weight. Their **price per pound** is lower, which gives you **more propeller per dollar**. These advantages assure longer **service life** and greater **economy**. It will pay **YOU** to specify **Columbian** for new equipment and refitting, as leading marine architects do.

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► Fish Catch for 1957

United States and Alaskan commercial fishermen made a catch of 4.8 billion pounds in 1957. The third highest catch since 1941 it was 100 million pounds higher than the 1955 catch, but 425 million pounds lower than the record year 1956.

The food fish catch was 2.68 billion pounds and the industrial fish catch was 2.12 billion pounds. A decline in the menhaden catch was responsible for the greatest amount of loss. Menhaden, the principal industrial fish was about 400 million pounds below the previous year.

Decreases in haddock, salmon, tuna, ocean perch and Pacific sardines were partially compensated for by increases in whiting, Maine herring, Alaska herring, jack and Pacific mackerel.

The drop in salmon was due to the decrease in the catch in Alaska, as Pacific coast catches increased 7 million pounds over 1956. The total shrimp catch was lower in 1957 than in the previous year.

► Fisheries Assistance Act

A bill introduced in the Senate in February would provide a five-year program of assistance to enable the less favored segments of the fishing industry to gain a firmer economic footing. Similar legislation was proposed in the House.

The bill calls for Federal assistance in maintaining vessel inspection and obtaining safety equipment. This is primarily designed to reduce the present insurance rates.

It also sets up a loan program to enable processors to repair and modernize obsolete or inefficient facilities.

Thirdly, the bill calls for a ship construction subsidy similar to that offered the maritime industry in an effort to offset higher construction costs in American yards.

The fourth provision calls for incentive payments to the fishermen and processing plants. This is designed to encourage the boat operators and processors to improve the quality of the fish caught and processed. The incentive payments would aid the industry in making up the price differential between the foreign and domestic products and retain the present share of the market. They would place certain requirements on the industry to improve its practices and in turn improve the product distributed to the consumer.

► Fish Oil for Tanning

Research has opened up a new market for fish body oil in the tanning industry, which as before claimed that fish body oil was not suitable for the tanning process. At present two types of oil are used. Neetsfoot oil is in the making of

FISHERY PROGRESS

soft leather and fish liver oil in making firm leather.

A three year research program, supported by the Bureau of Commercial Fisheries and conducted by University of Cincinnati, showed that fish body oil can be used to make the same quality leather now produced with imported fish liver oils. Domestic fish body oils are available in exportable quantities and is 20 percent cheaper than the imported product.

► Breaded Shrimp Standards

Quality standards for bread shrimp, as recommended by the Bureau of Commercial Fisheries became effective for voluntary use on March 1. These standards are the basis of controlling the quality of breaded shrimp and of inspection by the Federal Government. They are similar to the standards for fish sticks and 130 processed food products for which United States Department of Agriculture inspection is available.

The standards govern the amount of loose breading or frost, ease of separation, uniformity of size, condition of coating, evaluation of damaged or fragmented shrimp. They are also based on the degree of deterioration, dehydration, number of black spots and the condition of sand veins. The shrimp are grade as "U.S. Grade A", "U.S. Grade B", and "Substandard".

► Seek Scallop Conservation

The first step toward setting up international regulations increasing the size of rings in scallop dredges in an effort to prevent depletion of scallop beds on Georges Bank was taken recently at a fisheries meeting in Boston. The meeting followed a session of the U.S. Advisory Committee on the International Commission for the Northwest Atlantic Fisheries.

The U.S. commissioners of the 11-nation commission will recommend at a meeting of the group in Halifax N.S. this spring, that mollusks and crustacea be included in the terms of the organization's treaty. U.S. interpretation of the treaty indicates that only free-swimming fish are covered.

If the commission decides that mollusks and crustacea should be included, then the United States will have no reason not to change its interpretation. When the change has been made, regulatory action can be introduced to increase the ring sizes from 3 to 3½ inches.

► Fish Cookery Demonstrations

Fifty-seven fish cookery demonstrations for school lunch and extension groups have been scheduled by the Bureau of Commercial Fisheries during early 1958. The demonstrations will be conducted by trained home economists and fishery marketing specialists of the Bureau, in ten states and the District of Columbia.

The object of the demonstrations is to improve the nutrition and food habits of the school children taking part in the program. Fishery products are stressed to encourage children to cultivate a taste for fish which will continue as they become the customers of the future.

Ten million children participate daily in the National School Lunch program, representing a sales potential of two million pounds of fish per week.

► Radio Sells Fish

During the summer of 1957 the Bureau of Commercial Fisheries produced a radio recording and distributed it to approximately 3,500 radio stations. The recording contained 13 public service spot announcements ranging from 10 to 60 seconds, designed to increase the demand for fish and shellfish.

A partial evaluation of the results has been made through interviews of the personnel of 139 stations. Thirty two of the 139 stations reported using the announcements 74 times daily, ranging from one to six times daily per station.

Ninety-three used the announcements 490 times weekly ranging from one to 20 times a week per station. Fish retailers reported that they were able to use the recordings in connection with their radio advertising campaigns.

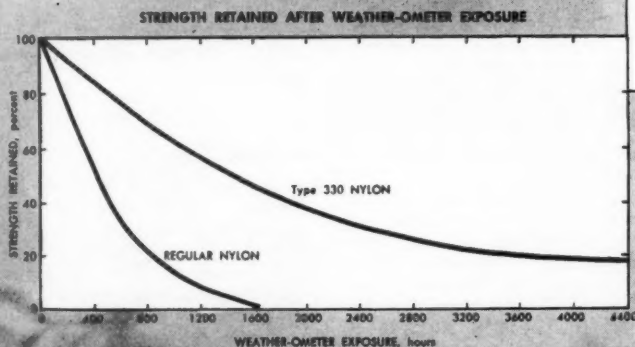
The results have been so promising that the Bureau is considering releasing another recording to further promote consumer interest in fish and shellfish.

► Salmon Import Bill

A bill was introduced in the House recently, providing that it shall be unlawful to import, for market and distribution within the United States or its possessions, salmon in any form taken on the high seas, by nets or other means, or at times, places, and under conditions or methods of fishing which would be unlawful if practiced by citizens of the United States.

NOW ALL BROWNIE FILAMENT SEINE TWINES are made from Du Pont's new TYPE 330 NYLON YARN for greater sunlight durability

Chart below shows results of a Du Pont laboratory exposure test of Type 330 vs. Regular Nylon.



Make sure your netting manufacturer is using BROWNELL PRODUCTS. You'll find the "BROWNIE" trademark on the largest selection of Nylons for the fishing industry. Here are just a few: Regular Nylon Seine Twine . . . Stretched and Bonded Nylon Maitre Cord . . . Lobster Pot Nylon Heading Twine (regular and bonded) . . . Combination Nylon Seine Twine (Spun and Filament) . . . Brownie Type "E" Nylon — the only successful trawl or long line available today . . . Spun Nylon Seine Twine, PLUS a complete selection of Nylon Heading or Seaming Twines.

Among the Distributors of Brownell Products are:

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PLUS MANY OTHERS

This new nylon with improved outdoor durability offers greater resistance to damaging ultra violet rays of the sun. Laboratory tests and accelerated outdoor exposure data prove that Type 330 Nylon Yarn has considerably better light durability than regular nylon used in fish netting and can mean longer life for your nets.

Once again, Brownell, backed by over 100 years of serving the fishing industry, is first with the latest!



For your netting, specify BROWNELL — the largest and the quality manufacturer of Nylon Seine Twine and Maitre Cords. BROWNIE Seine Twines are available in ¼, ½, 1, or 2 lb. tubes — each tube of twine has skin-tight Polyethylene Packing.

For additional information on BROWNELL and the name of your nearest distributor, write to:

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Research at Bears Bluff Has Practical Slant

South Carolina Marine Laboratory has played important role in expansion of commercial fisheries during last decade*

DURING the fiscal year of 1956-57 the efforts of seven years research at Bears Bluff, in cooperation with marine laboratories in Virginia and Maryland, have developed into a productive commercial enterprise. The Bears Bluff Laboratories on Wadmalaw Island, South Carolina, have begun to prove their worth to the fishing industry.

Conditions in South Carolina waters are so beneficial to the oyster that the young are apt to find resting places where they can grow and crowd each other out rather than live to serve man's appetite. The Legislature approved proposals made by Bears Bluff biologists to the South Carolina General Assembly in 1956, designed to permit development of the seed oyster industry, and a commercial beginning was made.

South Carolina has seed oysters to spare and other areas want them. Scientific research has brought together the elements for a new enterprise. Bears Bluff found that planting and harvesting of seed oysters would fit into the normal schedule of canning and shucking. There is no competition for cultch or reefs, the seed oysters can settle and grow, and there is shell enough for both.

Spreading out from the coastal centers of Charleston and Beaufort, more and more acres of oyster shore become unfit for harvesting mature oysters because of pollution. These contaminated areas, unfit for grown oysters are ample for seed oysters which have two or three years of growing before they are ready to eat. It is this high resistance to mortality that put South Carolina seed oysters in demand to other growers.

From 1945 to 1950 Bears Bluff studied and put into practice an oyster cultivation unusual to the Atlantic Seaboard. A series of salt water ponds were constructed and cultivation was begun in them. Experiments showed that the average annual production of 100 bushels per acre could be increased to 300 bushels through pond cultivation. The method also proved itself adaptable to the control of several oyster pests.

Funds to continue the experiments were unavailable and an extended drought reduced the fresh water supply in the Bears Bluff reservoir. The program came to halt. Recently, funds have been contributed to the work and the experiments have begun again. A 535-foot well has been drilled to permit the maintenance of the fresh water level and to allow for an additional supply to vary salinities of the salt ponds.

Improvement of the fresh water pond by strengthening the dikes and removing the undesirable debris has been authorized. The work will provide a reservoir of two million gallons of fresh water. Plans for a three-year study have been developed. The methods of collecting seed oysters developed in 1946 will be restudied for a careful cost analysis. Several hundred bushels of oysters will be planted in various places for comparative purposes. Studies of growth rates, mortalities, and control predators will be continued throughout the experiment. The detailed studies will reveal both the quality and the quantity of oysters which may be grown in a one-acre pond.

As usual, Bears Bluff research keeps its practical slant with Laboratory Director G. Robert Lunz and his staff applying themselves to the bread-and-butter matters of developing the South Carolina commercial fishing industry.

In the old days, if shrimp were scarce or the crab failed to appear or the whiting didn't bite, the matter got



Three Caterpillar powered shrimpers—"Miss Judy", "Peggy Ann" and "Miss Norma"—operated by Mt. Pleasant Sea Food Co., Mt. Pleasant, S. C.

little attention. The fishermen were the only ones who wondered about their luck. Until about 1950, when the Legislature began to appropriate funds for Bears Bluff Laboratories, no more than \$1,000 of State funds ever had been recorded as spent on investigation of the fisheries.

Shrimping and Crabbing Have Grown Considerably

In two decades, South Carolina's marine fishery has advanced considerably. Growth of shrimping since the mid-1930's has stirred an industry to life. The mosquito fleet and the cast net in the creek could not supply the new demand. The call for shrimp from afar off could be answered only with modern boats and equipment. Nearly 400 trawlers were licensed last year.

The South Carolina shrimp catch has risen until it has become the most valuable of the State's commercial fisheries. Perhaps five times as many boats sought shrimp in South Carolina waters during the fiscal year 1955-56 as during 1936. The shrimpers came from Georgia, North Carolina and Florida, as well as from South Carolina. Virtually all of these craft are faster and have more efficient gear than those of two decades ago. It probably would be a conservative estimate to state that present-day shrimp catches from South Carolina waters are five times those of the mid-1930's.

Another steadily developing fishery in South Carolina Low-country waters is that for the common blue crab. Fully three-quarters of the crabs landed commercially in South Carolina during the 1955-56 fiscal year came from waters in Beaufort County.

Crabs are caught by trawling the bottom during January, February and March; by trotline and pot at any season, although neither of the latter two methods is

* This article is based on material written by Francis B. Taylor and published in the "Bulletin of the International Oceanographic Foundation" and in the annual report of the Bears Bluff Laboratories.

(Continued on page 38)



The 127' steel tuna clipper "Mary Barbara" built by National Steel & Shipbuilding Corp., San Diego, Calif.

THE *Mary Barbara*, tenth in a series of 127-foot standardized steel tuna clippers built by National Steel & Shipbuilding Corp., San Diego, Calif., sailed recently on her maiden trip to grounds off South America. She is capable of cruising 6,000 miles at 12 knots and averaging a trip every 72 days with a full load of 340 tons of fish.

The new clipper joins seven sister ships supplying tuna for the packers of "Breast O'Chicken" brand, under operation of National Marine Terminals, Inc. of San Diego. Her skipper is Capt. George Zeluff.

New records for economy and profit have been shown by these tuna clippers. According to C. Arnholt Smith, president of National Steel & Shipbuilding, each vessel is returning a profit on its investment. Despite foreign imports, inflationary costs and lower tuna prices, the vessels continue to be an attractive operation for their owners. An important factor is the efficient management provided by National Marine Terminals.

The *Mary Barbara*, which cost \$560,000, has the same items of equipment as her predecessors. They include a Fairbanks-Morse 960 hp. 38D8 $\frac{1}{4}$ 6 cylinder, 720 rpm., opposed-piston, direct reversing propulsion Diesel, with 3:1 Western Sea-Master reduction gear, two auxiliary 191 hp. 1200 rpm. Murphy Diesels, Monel propeller shaft, Goodrich Cutless rubber stern bearing, Fairbanks-Morse pumps and motors, Sperry magnetic compass pilot, Raytheon Fathometer and Worthington ammonia compressors.

Designed to achieve the greatest possible economy at high speed over long distances with large fuel and cargo capacity, National Steel's tuna clippers have the traditional high bow and low afterdeck, which is almost awash when the bait tanks are filled. The main engine and auxiliaries are located forward under the wheelhouse.

The vessels are prefabricated, being built in seven principal sections, with the two bow and one stern sections being constructed in the open right beside the launching ways. The inner bottom, midships and deckhouses are built in the structural shops and craned to assembly at the launching site. All sections of the vessels are blocked in place and fitted to $\frac{1}{4}$ " tolerance before welding.

An unusual feature of these tuna clippers is the deep box keel which extends below the hull in a fashion similar to wooden vessels. This keel dampens rolling and aids steering in following seas. At the stern, the box section keel is extended to form a strong and rigid rudder shoe.

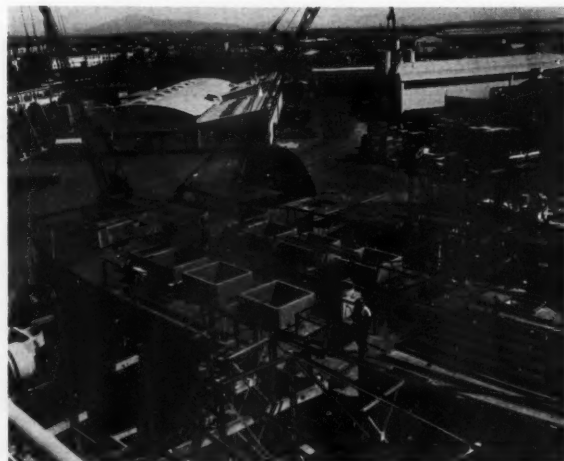
The hulls of the tuna clippers utilize a longitudinal framing system, and built-in corrosion resistance. Scantlings, structural details and welding are in general conformance with ABS requirements. The vessels have fuel

capacity of 48,000 gallons, fresh water storage of 4,000 gallons, and carry 1600 gallons of lube oil. Accommodations are provided for 15 men.

National Steel & Shipbuilding began its fishing boat activities with the launching of the 52-foot tuna boat *Juana* in 1945. She was followed by the 70-foot Pico Class and a number of fishing vessels of 106 and 111 feet in length. Next came 15 shrimp trawlers.

In 1951, the yard built the 127' *Conte Bianco*, as well as two 138' wooden tuna clippers, *Equator* and *Equador*. The *Conte Bianco* was so well received by the fishing industry that the University of Southern California commissioned National Steel to build a million dollar marine laboratory ship based on the *Conte Bianco's* modern tuna clipper design.

Following the Korean War, the *Conte Bianco* design was further modernized, and the current 127-foot series was put in production. Vessels of this class built thus far, in addition to the *Mary Barbara*, are the *Cabrillo*, *Dominator*, *Independence*, *Elsinor*, *United States*, *Westport*, *Concho*, *Missouri*, and *San Juan*. Another vessel with the same specifications is scheduled for launching the latter part of this month.



127' tuna clipper under construction at National Steel & Shipbuilding Corp., San Diego, Calif. showing vessel before galley and food storage segments of raised deck section were set in place.

Tuna Clipper Mary Barbara Tenth in Series At San Diego

Winter Fishing On Lake Superior

ABOUT the second or third week in January, the commercial fishing season at Marquette on Lake Superior normally comes to an end. During mild winters, however, the fishing continues well into February, when the catches of lake trout, particularly are impressive.

Probably the greatest hazard to open water netting during these periods is the frigid, knife-sharp winds that sweep across Lake Superior in spasmodic gusts. Then to set or re-set nets or lift them is a trying, laborious if not impossible task.

Ice-shelves which form around shores often break loose and resultingly form countless ice floes which hamper movement of the commercial fishing craft. Gear and nets are occasionally lost when anchor buoys yield to the terrific force of winter winds against the ice floes.

Notwithstanding the hazards, the possible loss and the difficult task involved, veteran Lake Superior fishermen ply their trade. Fishing under such conditions is part of their makeup, part of their life and the men love their work. To them fishing is a business. They know when and when not to fish. They know that if they can possibly set and lift their nets in January, the catch will be usually profitable.

In recent years Lake Superior commercial fishermen have more to fight than wintery weather to keep their receivers supplied with fish. They have had and still have the parasitic sea lamprey to contend with.

Lake Superior has been saved somewhat from depletion of lake trout through the extensive work carried out by the U. S. Fish and Wildlife Service in the campaign to control sea lamprey in the Great Lakes basin. Aside from this, Lake Superior is a very productive trout lake. With the aid of Marquette, Munising and Whitefish Point commercial fishermen, the Michigan Conservation Department has reared and planted hundreds of thousands of lake trout fry and fingerlings to aid natural spawning in propagation of these preferred fish.

As a result, Lake Superior fishermen find, along with good yields of herring during the herring runs, that netting for whitefish and lake trout is still profitable.

Commercial fishing for lake trout is done largely with gill nets. These are set usually over known reefs where the trout generally lurk and feed, or in deeper waters where the large fat ciscowet trout, to old and fat to move around much, lurk inactively. Although whitefish are taken also in gill nets, the greater production of whitefish is usually from trap nets. Lake herring, when they concentrate in big schools to spawning activity, are taken in gill nets of smaller mesh.

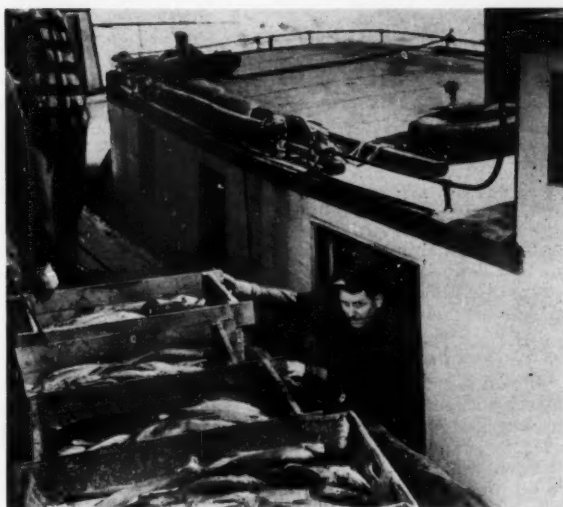
Another method of taking trout is by a set line about four miles long, to which a leader and hook baited with herring is attached every thirty feet. The small established operators use this method while the larger operators exploit the use of gill and trap nets.

At almost every port along the lake's southern shore there is at least one or more commercial fishing craft. Among the larger fishing fleets, Marquette's fleet is probably the most consistently active.

There the Peter Anderson Fish Company is the largest and oldest. Like the Tom Brown Fisheries at Whitefish Point, the Anderson fisheries have been operating since the middle of the last century. With over a hundred years of fishing to its credit, Brown Fisheries is probably the largest operator on the lake.

One boat of the Brown Fisheries fleet will attend to as much as 16 miles of gill nets, lifting as much as 8 miles daily. Today, with modern net lifters, auxiliary machinery, and other equipment, expeditious lifting and handling of fish is possible.

Modern electronic equipment aids in finding and spotting schools of fish. It helps in foggy weather in leaving and returning to ports, and guides the vessels safely away from navigation hazards. Veteran fishing companies



Lawrence Christenson, Jr., unloading a winter day's catch of lake trout at Marquette, Mich., on Lake Superior.

on the lake have taken advantage of many of these modern devices and found the investment paying off.

This explains why commercial fishing out of Duluth, Minn., Superior, Cornucopia, Ashland, Munsing, Grand Marais, Whitefish Point and Sault St. Marie, among other Michigan ports, is still good business despite the discouraging talk that the sea lamprey has injured commercial fishing in the largest lake in the world.

Fishing through the ice over the bays is another winter fishing method. While the ice seldom, if ever, forms all the way across Lake Superior, it does freeze solidly and thickly enough in the bays to provide safe commercial fishing through holes in the ice.

This method is done with either a net or fishing line. The latter way is called bobbing. A strong line, sinker, and leader hook are used, baited with herring. This is bobbed up and down to give action to the bait. A spoon, specially designed for the purpose may be used. However, the netting method, although more extensive, produces more fish.



Floating icefloes massing lower harbor at Marquette, Mich., where fishing boat "Kingfisher" makes turn in approaching dock to unload its catch.

Keeping Your Outboard Motor in Top Shape

By Gordon Read*

Commercial salt water fishermen who use outboard powered boats are concerned with the problem of how to give their motors the best care and maintenance. The rough treatment that outboard motors receive from weather and water under all-season use is responsible for a large share of the operational difficulties which fishermen encounter.

For the purpose of clarity, the following article deals only with manual and electric starting outboard motors in the 30 to 35 horsepower class. The basic information presented, however, applies to all outboard motors—whatever their size or type.

Check List for Diagnosing Difficulties

If you have difficulty starting your outboard, or if the motor does not operate properly, only three things have to be checked—spark, fuel and compression. A list to be used in searching for such troubles follows:

Hard Starting. Check fuel in tank—Tank connection to motor—Proper carburetor adjustment—Carburetor primed—Choke pulled out—Proper fuel mixture—Loose fuel tank cap—(Tighten)—Water in the fuel (Drain and refill with fresh fuel mixture)—Fuel tank resting on fuel line—Partially clogged fuel tank screen or fuel filter.

Also check proper position of speed control—Loose electrical connections—Spark plugs carboned, burned, or wet—Improper type spark plugs—Incorrect gap in spark plugs—Incorrect gap in magneto points.

Pull manual starter grip slowly to determine whether or not your motor has good compression. Faulty compression can be caused by loose spark plugs. Be sure there is a gasket under spark plugs and that they are tight. Check compression relief valve and adjust if necessary. If compression is still faulty and fuel system and ignition are working properly, take motor to your dealer for service check-up.

If Motor Won't Start. Check fuel in tank—Fuel in carburetor (Be sure to prime it)—Clogged fuel line—Water in fuel (Drain and refill with fresh fuel mixture).

Faulty spark plugs (Clean and adjust gap or replace if necessary)—Disconnected spark plug leads.

If fuel and ignition system are functioning properly, check compression as under "Hard Starting."

If Motor Doesn't Run Smoothly. Check as to proper fuel mixture—Carburetor adjustment—Fresh fuel—Water in fuel (Drain and refill with fresh fuel mixture)—Par-

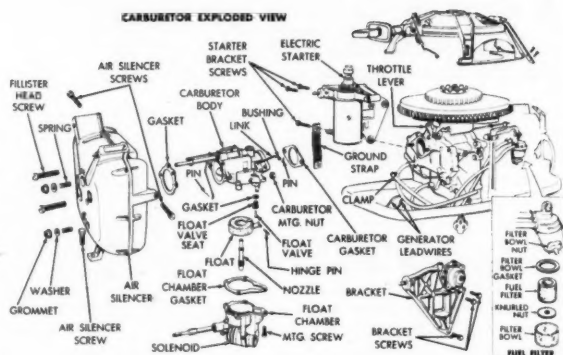


Fig. 1—Exploded view of outboard motor carburetor.

tially clogged fuel lines, filter, fuel tank screen. Loose fuel tank cap (Tighten).

Loose ignition connections—Faulty spark plugs—Incorrect gap in spark plugs—Improper type spark plugs—Incorrect gap in magneto points—Improper contact between magneto points. If your motor doesn't run properly after checking the above list, take it to your dealer for service.

If fuel and ignition system are functioning properly, check compression as under "Hard Starting."

Powerhead and Upper Unit

To remove the motor shroud when working on the powerhead, move the shift lever, without forcing it, to reverse position. If the lever cannot be moved easily, pull slightly on the starter cord which will allow you to shift. When operating with remote controls, place the throttle in extreme slow position and disconnect remote control cable on the shift lever side of the motor. Release the latches on each side of the shroud. Lift rear half of shroud up, move entire shroud forward to clear lugs holding front shroud and lift off. Reinstall shroud assembly in reverse order.

Using the correct spark plug is most important for efficient operation. The recommended spark plug for your motor is Champion J6J or Auto-Lite A3X. The proper spark plug gap is .030". Detach rubber covered spark plug terminal (twist slightly counterclockwise and pull off). With a wrench provided with the motor, remove spark plugs for inspection or replacement as necessary. When reinstalling spark plug, clean the spark plug seat in the cylinder head. Be sure spark plug gasket is in place and tighten plug securely. The spring inside the rubber terminal lead cover must be positioned to fit properly over spark plug terminal.

Adjusting the Carburetor

Changes in fuel, altitude and climate may make it necessary to readjust the carburetor to obtain the best performance. Do it as follows when underway and motor is warm: 1. Move throttle control to Fast and adjust High Speed lever (turn left or right) until motor runs smoothly at highest speed. 2. Move throttle control to slow position. Then adjust Slow Speed lever (turn left or right) until motor idles smoothly. 3. Recheck High Speed lever adjustment. In order to conserve fuel, adjust the carburetor toward the lean side.

Make the following adjustments if the High or Slow Speed adjusting levers are removed or become loose on the shafts. 1. Remove the screws and levers from the shafts. 2. Turn slotted high speed shaft to the right, with screw driver, until it seats gently (not too tight). Then turn it left $\frac{3}{4}$ turn. 3. Turn slotted slow speed shaft to the right, with screw driver, until it seats gently (Continued on page 29)

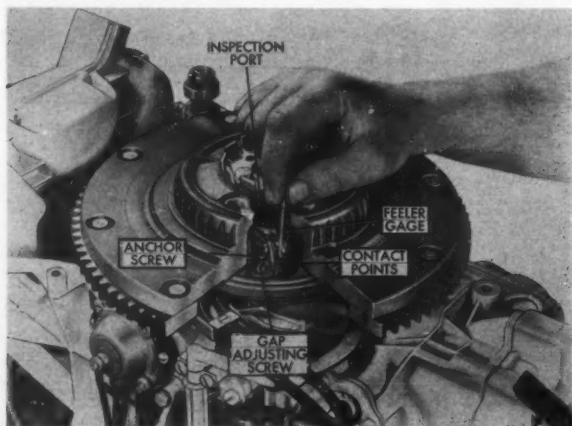


Fig. 2—Adjusting the gap in the magneto breaker points on an outboard motor.

Trawler "Caribbean Sea"

Is 700th Fishing Boat

From St. Augustine Yard

DIESEL Engine Sales, Inc. launched its 700th fishing boat on February 8 when the 67-foot shrimp trawler *Caribbean Sea* slid down the ways at St. Augustine, Florida. It was a most festive occasion, at which Mrs. Spessard L. Holland, wife of Florida's senior U. S. Senator, performed the christening; and L. C. Ringhaver, president and general manager of the boatyard, served as master of ceremonies.

The new trawler is owned by Sahlman Sea Foods of Fernandina Beach and Hookers Point, Tampa, Florida, for whom Diesel Engine Sales has built over a dozen trawlers. She sailed February 20 on her maiden trip to the Campeche grounds under command of Capt. James Franklin Hudgins.

The Sahlman company is operated by Harry F. Sahlman and his two sons, Donald and Jack, and their main base of operation is Hookers Point, from which the *Caribbean Sea* will fish. George W. Parker is in charge of boat maintenance for the fleet.

Harry Sahlman has been a leader in the shrimp industry for 30 years. He is chairman of the board of the Shrimp Association of the Americas, past president of Southeastern Fisheries Association, director of National Fisheries Institute and National Shrimp Congress, and member of advisory committee on Fish & Wildlife Service Saltonstall-Kennedy Fund and fishery advisory committee of the U. S. State Department.

Sahlman Sea Foods was a pioneer packager of shrimp, and is said to be the first firm to catch Royal Red shrimp in commercial quantities. Sahlman has been very active in developing deep water shrimping from its inception, and four of its previously built trawlers, the *North Easter*, *Hurricane*, *Trade Winds* and *200 Fathoms* are designed and equipped for long range operation.

Just a year prior to launching the *Caribbean Sea*, Diesel Engine Sales completed its 600th vessel, the trawler *Mary Call Collins*. The yard constructed its first boat, the *M. A. Bowlin* in 1943. Special recognition has been given to every 100th boat built, which have included



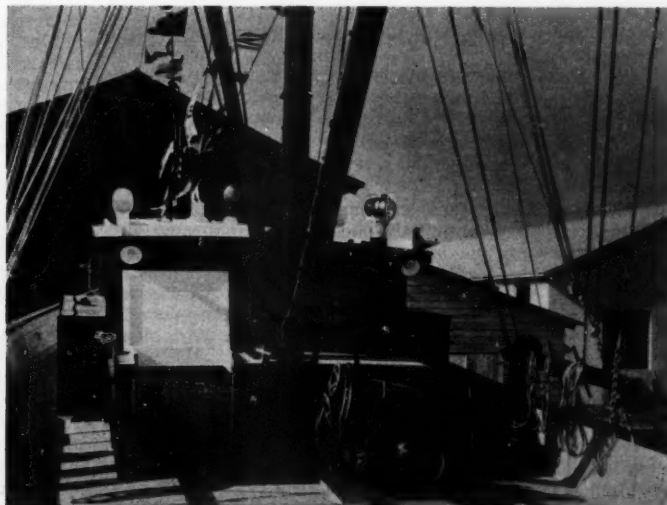
Harry F. Sahlman addressing launching party for trawler "Caribbean Sea" at Diesel Engine Sales, Inc., St. Augustine, Fla. Seated, left to right: Senator Spessard L. Holland; Mrs. Holland, sponsor; John C. Ferguson, president, Shrimp Association of the Americas; Jack Sahlman of Sahlman Seafoods, Tampa, Fla.; L. C. Ringhaver, head of the boatyard.

the following: 100th-Jim Melton, 200th-Sunshine, 300th Tern, 400th-Miss Four Hundred, 500th-Goodwill.

Diesel Engine Sales employ nearly 150 at its St. Augustine yard, which is geared for "production line" construction of standardized hulls. The firm also has a boatyard at Fort Myers, known as Diesel Engine Sales of Ft. Myers, Fla. Inc., which now is building shrimp trawlers in addition to extensive repair and overhauling work.

The *Caribbean Sea* is a double-rig, long range shrimper, powered by 150 hp., D342 Caterpillar Diesel with Snow-

(Continued on page 27)



Aboard the 67' shrimp trawler "Caribbean Sea", showing the D342 Caterpillar Diesel in the engine room, and aft view of the deck house showing Hathaway hoist.

PACIFIC COAST



The Crescent City, Cal. crab and salmon boat, "Lillian M" is owned by M. L. Van Meter. Forty feet long, she is powered by a Chrysler Crown with 2.5:1 reduction gear, turning a 24 x 19 Wirkkala propeller and Monel metal shaft. She has an Apelco radio and is built with 2 x 4 cedar ribs, 1/2" cedar planking and 1 1/2" Spruce decking.

California Group Seeks Ways to Improve Salmon Fishery

Problems related to the salmon industry were discussed before the California Assembly Interim Committee on Fish & Game at a meeting held in Eureka recently.

The Department has designed a program to re-vitalize and increase the great runs of king salmon in California streams. For the second successive year runs of spawning kings in California are less than half what they should be.

Richard Croker, chief of the Department's Marine Resources Branch gave a talk before the committee and declared the ills besetting salmon are as varied as they are complex.

They range, he said, in importance from loss of spawning streams to genetic downbreeding by selective fishing.

He suggested the following program be undertaken:

1. Continue and strengthen the present program of obtaining proper water flow releases, removal of obstructions to salmon migration, construction of fishways, installation of fish screens, artificial propagation of salmon, transplanting fish to build back runs, educational campaign to prevent stream damage due to logging practices, recommendation for protective laws and regulations, enforcement of these laws, continual analysis of regulations to obtain better working regulations, inventory of the resource on annual basis and dissemination and interchange of information.
2. Changes in the present law consisting of an amendment of present pollution laws to provide for adequate control of harmful waste discharges that are destroying salmon and other fish and amendment of the basic law regarding expenditure of any capital funds on property now owned or controlled by the state.
3. New techniques to permit young fish to survive safely the many sources of mortality.
4. Public acquisition and control of spawning areas.

5. Reclamation of the San Joaquin River for salmon production.

6. Trial and development of artificial spawning channels.

7. Acquisition and development of entire rivers.

To maintain and enhance the salmon resources will require hard work, manpower, vision, money, patience and understanding. Croker told the committee that California has only eight scientists working on salmon and steelhead, a few biologist on water problems and pollution and a handful of other personnel. By comparison there are over 200 salmon and steelhead biologists in the Pacific Northwest plus several fishery engineers.

In one effort to restore depleted runs of salmon the Commission has voted to close the sport season on September 15 instead of the usual November 15. The commercial season also closes on November 15. It is hoped that the shortened season will help somewhat to conserve the salmon supply.

San Pedro Leads Nation as Fishing Port

Shiploads of tuna, mackerel, anchovies and sardines which came into San Pedro during 1957 enabled the port to retain its historic spot as America's number 1 fish handler.

According to a preliminary report issued by the Bureau of Commercial Fisheries, fish landings totaled 354,400,000 lbs., with a boatside value of \$25,440,000. Landings of industrial fish were considerably greater than those at the leading Atlantic ports.

The catch was, however, off from 1956 when 381,000-000 lbs. were landed with a value of \$28,200,000. Part of the drop in San Pedro was caused by the smaller fleet operating from the port. In 1952 the San Pedro-San Diego fleet totaled 214 tuna clippers, against the 140 now in operation.

Fish Auctions At San Diego Now Held Twice a Week

Auctions of tuna at San Diego were stepped up to two a week during January and February, resulting in the sale of over 10,000 tons of skipjack and yellowfin. Despite the heavy sales, prices bid and accepted moved up during the period and at times hit the highest points since the auctions started.

At the four auctions reported for February over 4000 tons of tuna was sold, including 1260 tons of yellowfin and 2822 tons of skipjack.

Generally speaking, prices have increased from lows of \$255 a ton on skipjack and \$190 on yellowfin last summer to the present \$270-plus and \$230-plus now in effect.

Most fishing authorities agree that the market at present will support the higher prices since cannery sales are good and demand is behind production. When the canneries begin to catch up next summer, however, many feel that the real value of the auction system will either be proven or disproven.

Fisheries Association Meets in San Pedro

The Southern California Fisheries Association met at San Pedro on February 22 at which time three important matters were considered:

1. Forming a state organization.
2. A State Fish Marketing Act.
3. Reorganization of the California Department of Fish and Game.

John Gilchrist of Northern California Seafood Institute gave a comprehensive report on the procedure for enactment of the Fish Marketing Act, its possible provisions, and reported that the Act could be written to cover only specific divisions of the industry.

Action regarding the state organization and reorganization of the Dept. of Fish and Game were discussed but decision on both matters was tabled for action at a later meeting of industry members.

Fish Promotion Reaches New High In Southern California

Never has Southern California store and market advertising featured so many seafood items as have appeared during the first week of the Lenten season. Radio and TV have given prominence to seafoods as never before and Sunkist Growers and Wesson Oil report unprecedented demand for display material featuring seafood.

One major chain for the first time on record gave more space to seafood in its advertisement than to any other food and sales by that chain early in Lent were three times greater than for any other previous week.

Fillet of rockfish was featured by Southern California Fisheries Assoc. members as seafood of the month with sea bass, fillet of sole and rex sole as companion items.

Record Tuna Pack For California

The California Fish Cannery Association has reported that a record pack of 10,150,000 cases of tuna were turned out by southern California canneries in 1957. Value of the output was estimated at \$120,000,000.

Oregon Salmon Spawning Counts Show Increase

Highest spawning escapements of silver salmon as indicated by spawning ground index counts into lower Columbia river tributaries in Oregon since 1951 have been reported by the Oregon fish commission this winter.

The increased numbers of silver spawners are, in part, a reflection of more stringent regulations imposed upon commercial fishing in the Columbia river. A ten-day fishing closure on the Columbia in mid-October was invoked in 1957 with the primary intent of increasing silver salmon spawning escapements. Additionally, commercial fishing was limited to only three days a week during open periods after September 18.

Another factor in the increase was the numerous salmon rehabilitation projects conducted in lower Columbia tributaries by all fisheries and game agencies.

In view of the encouraging silver salmon escapements that resulted from tighter Columbia river fall season fishing regulations in 1957, the fish commission and the Washington department of fisheries have adopted similar regulations for this year. Additional salmon rehabilitation projects have been planned also to further aid silver salmon and other fish production in lower Columbia tributaries.

Oregon Fish Commission Discusses Otter Trawl Fishery

A public hearing was held by the Oregon Fish Commission in Portland on March 11 to discuss the otter trawl fishery, its regulation and management.

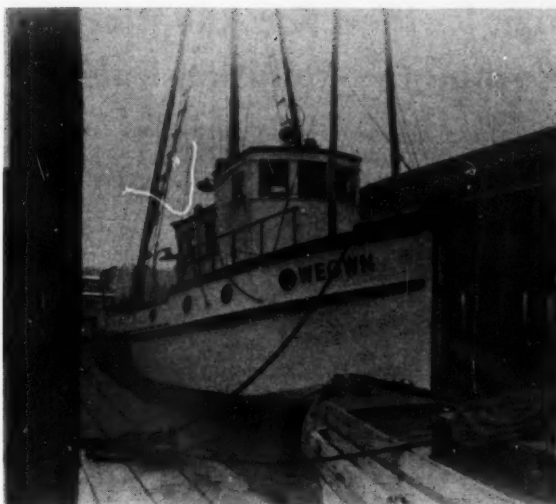
All those interested in this fishery had an opportunity to present their views and if they could not attend the meeting they were invited to submit their views and ideas on the matter in writing.

Salmon Liberated From Oregon Hatcheries

More than 23½ million salmon and steelhead were liberated from the Oregon fish commission's 15 hatcheries in 1957. The total showed a 3½ million fish increase over salmon and steelhead liberations in 1956.

Total Chinook salmon releases exceeded 11,750,000 fish. Silver salmon liberations were slightly less than 8,800,000 fish for the year.

Steelhead releases in 1957 added up to 2,320,000 fish. Blueback and chum salmon releases each totaled about



A 165 hp. General Motors engine with Twin Disc 2:1 reduction gear turning a 32x 22" Michigan propeller, powers the "Weown", 48' crab, salmon, and tuna boat of Cecil T. Holland, Empire, Ore. Equipped with Delco batteries, Danforth anchor, Raytheon Fathometer, Kaar radio and direction finder, she is finished with International paint.

300,000 fish. Chums were propagated at only the Big Creek hatchery near Astoria and the Trask hatchery near Tillamook.

Silver salmon spawning operations have been completed at all stations. Collection of steelhead eggs has just gotten underway at some of the hatcheries.

Nehalem River Projects Completed

Some 25 miles of stream system of the north fork of the Nehalem river have been more accessible for salmon and trout migration by a series of improvement projects conducted by the Oregon fish commission over the past several months.

Only recently a concrete fishway over Waterhouse falls was finished by the commission's engineering division. These falls had been a serious barrier to salmon and trout at most water stages.

Another fishway was completed at Hamlet Falls last September, and according to Harry C. Warren, fish commission engineering director, total cost of the projects was approximately \$43,000.

Opening Date for Pacific Halibut Set by International Commission

The International Pacific Halibut Commission has set May 4 as the opening date for halibut fishing in all areas except a portion of Alaskan waters. The commission also reported that 1957's halibut catch was worth more than 11 million dollars to the fishermen and that the annual catch has averaged more than 65,000,000 pounds during much of the past four years.

Seton H. Thompson, Washington, D. C. replaces Richard Nelson, of Vancouver as chairman of the Commission for the coming year. Canada's Dr. William A. Sprules, Ottawa, is the new vice-chairman. Other commission members are Mattias Madsen and J. W. Mendenhall, representing the United States, and Harold Helland, representing Canada.

Seek Vessels for Tuna Investigations

Bids were being sought to obtain commercial fishing vessel owners to make an actual commercial test, with gill nets, of the albacore tuna stocks in the Central North Pacific ocean. They were scheduled to be opened publicly on March 31.

Sign Petition For Adopting Washington Pollution Rules

More than 20,000 persons signed petitions last month asking the immediate adoption and enforcement of pollution limits recommended by the State Fisheries Department, the Puget Sound Oyster Growers and the Pacific Coast Oyster Growers' Assoc.

Milo Moore, director of the State Dept. of Fisheries at a meeting of the State Pollution Commission last month was forced to withdraw his purity water standard proposal in the face of vigorous opposition from industrial and municipal leaders. Moore suggested instead that the commission follow standards proposed last July by the Association of Washington Industries.

Moore's action was backed by Gov. Rosellini who said he would not allow any member of his administration to deter industrial expansion in the state, but that he did not believe any statements or actions by Mr. Moore had harmed the business climate in any way.



Nick Karuza of Bellingham, Wash. uses his 50' boat "Tagatof" for salmon fishing and dragging. Included in the equipment is a Raytheon Fathometer and a Danforth anchor. The finish is International paint. Power is supplied by a General Motors 165 hp. engine turning a 40 x 28" propeller through a Twin Disc 3:1 reduction gear.

Washington Vessels to Study North Pacific Salmon

Two halibut schooners the *Pioneer* and *Attu* have been chartered by the Fish & Wildlife Service of Seattle to try to determine "whose fish is whose" in mid-ocean this summer, and will leave Seattle about May 1, returning about September 1.

The vessels will carry salmon scientists for exacting studies covering the central North Pacific ocean and much of the Bering Sea. Some 1,500,000 square miles of the North Pacific ocean will be covered in the investigations.

The purpose of the cruise is to study the distribution and abundance of salmon in the high seas, to collect salmon samples for racial identification, and to continue the oceanographic survey of the area.

The scientists are primarily interested in determining what North American stocks enter waters west of the 175° provisional treaty line and therefore become available to the Japanese high seas fisheries.

Other questions to be answered are: were these salmon spawned in American or Asiatic streams? In what areas

do they mingle in the high seas? By what characteristics may the Asiatic and American fish be distinguished?

It is hoped that about 8,000 salmon will be taken for the racial studies. The three species being collected are red salmon, pink and chum. The whole salmon specimens are frozen and placed in individual plastic bags.

At the Montlake salmon laboratory in Seattle, biologists seek ways of telling an Asiatic salmon from an American salmon. To do this, the salmon's blood, bone structure, scales and measurements of seven different physical characteristics are studied. The fish are x-rayed to compare skeletal structures.

Results from the cruise of these two vessels this summer will be presented at the next meeting of the International North Pacific Fisheries Commission to be held in Tokyo next November.

Record Salmon Planted In Washington

More than 43 million hatchery-reared salmon were planted in Washington State streams and estuarial areas during 1957 by state salmon hatcheries. This is the largest number ever released in one year by any state fisheries agency. The Oregon Fish Commission planted more than 21 million and California nearly 2 million.

In addition, the Department's 19 hatcheries planted more than 13,000,000 salmon fry and 271,800 eggs in streams in conducting various experiments along with 53,300 steelhead trout, to bring the grand total for the year to 56,920,300 salmon and steelhead released in state waters.

Public Salmon Hearings Held in Seattle

Public hearings on all phases of regulations for the coming salmon fishing seasons were held in Seattle on February 13 and 14. Discussions also included regulations on crabs and silver smelt in Puget Sound. Subjects discussed were means of conserving salmon stocks, and bag and size limits for all areas of the state.

Hold West Coast Shrimp Research Discussion At Seattle Meeting

West Coast shrimp was the subject of a meeting held at the Bureau of Commercial Fisheries Laboratory in Seattle on March 4. Purpose of the meeting was to acquaint the industry with the Bureau's shrimp research activities and plans for 1958. Ideas and opinions from industry members regarding the shrimp program, were obtained.

Personnel of the Exploratory Fishing and Gear Development Branch presented results of shrimp surveys off Washington and Alaska during the past two years, and discussed plans for additional shrimp explorations by the vessel *John N. Cobb* during the coming season.

Bureau Technologists explained their technological studies on shrimp, including experiments in holding freshly caught shrimp in refrigerated sea water and recommendations to the industry concerning its use on vessels.

Hammer Re-elected President of Washington Fishermen's Co-op

Reidar Hammer was re-elected president of the Fishermen's Cooperative Association, Inc. of Seattle, for the year 1958. Harry J. McCool was re-elected vice-president and Bert G. Johnston, secretary-treasurer.

Four positions on the Board of Trustees were filled at the regular annual stockholders meeting held at Norway Center on February 15. Henry Parpart, Dan Hjort of Seattle and Kris Kyvik of Aberdeen were re-elected to a three year term. Richard Haugen of Seattle was a new member elected to serve for one year.

Harold Graham of Port Angeles is the seventh member of the Board who will direct the association's activities this year.

NORTH ATLANTIC

Maine Sardine Council To Promote European Sales

The Maine Sardine Council last month sent its Executive Secretary Richard E. Reed to Europe on a sales, survey and promotion mission. His chief effort will be in connection with U. S. Military procurement and other possibilities for expanding the sales of Maine sardines.

The trip was planned to include calls and conferences in Morocco, Portugal, Germany, France, England and possibly Norway. In addition to the military, Reed was scheduled to consult with a number of important civilian trade organizations with world-wide connections.

The Maine Sardine Council has also embarked on an extensive program to develop and expand the sales of the industry's products in the institutional market. The Council has employed a New York City consulting firm of institutional specialists to work with Reed on the required research, marketing and promotional operations.

The institutional market is of vast proportions with over 500,000 outlets which purchase more than 6 billion dollars worth of food a year. Chairman of the project is Lester Wass of Eastport and members of his committee include Mose Pike, Eastport; James Wells, Watertown, Mass. and Burleigh Crane, Milbridge.

Lobstermen Raise Fund to Fight Charges

The Maine Lobstermen's Association last month laid plans at a meeting in Rockland to raise a War Chest with which to defend itself against charges of conspiracy to fix lobster prices in District Court in Portland which was scheduled to start March 10.

Leslie Dyer of Vinalhaven, president of the group, discussed the industry as it stands today and cited instances where legislative changes in the state laws governing the industry were a necessity if the economy of the industry is to be improved.

Two attorneys were also present to explain the legal aspects of the pending litigation of the government against the Association and its president.

Maine Fisheries May Benefit From Series of Meetings

A series of meetings at various coastal communities were started last month with members of the Maine fishing industry meeting to discuss mutual problems. The first of the meetings was held at Machias on February 18 and the second was scheduled for the 20th at Jonesport.

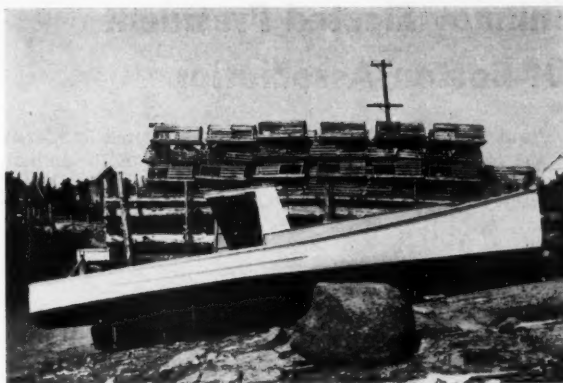
Representatives from the Department of Sea & Shore Fisheries attended to explain the organizational set-up of the Department, its plans and programs. Various fisheries laws were to be discussed as part of the Department's current program to revise and simplify existing regulations.

It is hoped that the information obtained from these meetings will help the Department prepare future programs which will be of great benefit to the industry.

Maine Lobster Catch Higher

Maine's lobstermen landed more lobsters in 1957 than in 1956, but got less for them. Total landings for the year 1956 were 20,572,330 pounds and in 1957 landings amounted to 24,402,800 pounds. The average price per pound in 1956 was 44 cents, and in 1957 it was 37 cents per pound.

It is estimated that as of early February there were two and one-half million pounds of lobsters in Maine



Galen Crowley of Corea, Me. owns this 32' lobster boat shown at low tide. She was built by Harvey Church of Stueben, Me.

pounds and another one and one-half million pounds in lobster pounds in Nova Scotia.

Rhode Island Would Limit Oyster Take

A bill to limit to five bushels the quantity of oysters that may be taken per day from Green Hill Pond in South Kingstown was introduced last month in the Rhode Island General Assembly. Sponsors of the measure were Senators Charles B. Clarke of South Kingstown and Charles J. Link of Charlestown.

The law presently restricts to five bushels the amount of oysters that may be taken by a licensed fisherman from Charlestown Pond.

The present law also places a limit of 20 bushels per day on the take of oysters, clams and quahaugs by a licensed fisherman, excepting in Charlestown Pond.

Rhode Island Dealers Promised Support Of Conservation Director

John L. Rego, state director of agriculture and conservation wrote Bristol County shellfish dealers last month stating that he is always willing to "go to bat" for shellfish interests and is interested in the bay and the welfare of the shellfish industry.

The dealers are bitterly opposing the construction of an oil refinery at Jamestown because of the possibility of oil pollution and destruction of shellfish beds. They have sent a telegram to the Governor expressing their belief that oil spillage from a refinery cannot be avoided because of human error and mechanical failure.

Rego told the dealers that adequate laws and severe punishment of violators would prevent bay pollution and if the present laws to control oil pollution are not strong enough he would support legislation to make them stronger.

New Maine Boat Being Built

A new 50' seiner for Capt. Sanford E. Doughty of Chebeague Island, Me. is being built by Lash Bros., Friendship, Me. She will be powered by a Model 6DAMR-779, 185 hp., 1800 rpm. Allis-Chalmers Diesel with Twin Disc 3:1 reduction gear, sold by Harbor Supply Oil Co., Portland.

Harris Co. Maine Pyrene Distributor

The Harris Company of Portland, Me. has been named State of Maine distributor for Pyrene Manufacturing Co., and will handle a complete line of fire extinguishers and fire extinguishing systems.

Shinney Elected President Of Boston Association

Frank Shinney of A. F. Rich Co., was elected President of the Massachusetts Fisheries Association at its annual meeting last month. Gregory Sacca of Blue Sea Fish Co. was elected Vice-President. Patrick J. Callahan, O'Hara Brothers Co., Inc. is the new Secretary while John F. Dolan, L. B. Goodspeed, Inc. and Sidney K. Jones, Booth Fisheries Corp. were chosen as Treasurer and Assistant Treasurer respectively.

Elected to the Massachusetts Fisheries Association board were William Collings, Coral Sea Fisheries, Inc.; Sam Bloom, Ocean Fisheries, Inc.; Ralph Ventola, Deep Sea Fish Co.; James S. Carls, Baker, Boies & Watson Co.; Anthony Coveluzzi, Viking Fisheries, Inc.; Sidney Cohen, Shamrock Fisheries Inc.; Harold Randlett, F. E. Harding Co.; John Fiore, Seaside Fisheries; Frank Delahoyde, Bay Fish Co.; James Fitzgerald, Eastern Seafoods Co.; Alex Russo, American Fish Co.; David Choate, Jr., P. H. Prior Co. and Bart Tribuna, Bart Tribuna, Inc.

The work of the Massachusetts Fisheries Association was discussed at the New England Fishery Technologists February meeting in Boston. Thomas D. Rice, executive secretary for the Mass., association said that it is one of the strongest voices in the New England fishing industry—a leader in the domestic fisheries' fight against low cost foreign competition.

Composed of fish producers, processors, and dealers of Boston, the Association's purpose is to add strength in dealers negotiations with numerous facets of the industry and government. Its problems have ranged from in-plant differences to appearances before Congressional hearings and discussions with White House advisors. It is represented on the American Fisheries Advisory Committee and on the Advisory Committee for Fisheries and Wildlife.

Gloucester Second in Total Landings

The port of Gloucester was second only to San Pedro, Calif. in total landings of fresh fish in 1957, according to the Fish & Wildlife Service. Total landings for the year were 251,274,000 pounds of groundfish—mostly ocean perch and whiting, valued boatside at \$7,347,000.

New Bedford led the Atlantic coast states in value of food fish landings, with 102,917,000 pounds, mostly scallops and flounders, valued at \$13,340,000, boatside.

Gloucester Association Head Opposes Fisheries Aid Bill

Raymond Kershaw, president of the Gloucester Whiting Association declared last month that he is strongly opposed to the Federal Fisheries Act of 1958 in its present form.

Kershaw stated that the bill has been specifically designed to help only the big redfish boats and that in essence the bill would encourage vessel owners to fish for the subsidy and neglect trash fish such as menhaden which keep three big plants operating in Gloucester.

Kershaw further stated that he intends to go to Washington to oppose the bill in its present form. He believes that the bill, as it is now written, shows special interest to a privileged few. He said that if anything is going to be done to help the fishing industry, it should benefit all involved.

"Blue Waters" Joins Gloucester Fleet

A new addition to the Gloucester dragger fleet, the 90' *Blue Waters*, Capt. Santo Mineo, landed her first trip of 36,000 lbs. at Boston on February 18. The vessel is a former minesweeper known as *Hiawatha*, which was purchased by Capt. Lewis Wallace of Reedsville, Va. for use as a menhaden seiner. Later, Gloucester By-Products, Inc.



"James M. Burke", fishing boat, owned by John M. Silva of Provincetown, Mass. is powered with a Caterpillar Diesel.

acquired the craft and Capt. Mineo went porgy seining with her out of Gloucester.

One of the largest vessels operating out of Gloucester and one of the best producers—the *Luckimee*—is reportedly sold to Nova Scotia interests.

The *Luckimee* was built in 1945 and was operated during the early years of her life by the Standard Fish Co. of Boston. In 1950 the vessel was sold to the U. S. Government for use in Germany.

In 1955 she was bought by her present owners, Luckimee, Inc., a New York company. Her welded all-steel hull has a 260,000 pound capacity.

Gloucester Dragger Repowered

The 80' Gloucester dragger *Magellan* owned by Pasquale Maniscalco and Anthony Chermesino, has been repowered with a VT-12-M Cummins Turbo Diesel. It is a 12-cylinder, air starting engine rated 400 hp. at 1850 rpm., and fitted with Capitol 4.75:1 hydraulic reverse-reduction gear, Cotta 3:1 power take-off for the winch, Ross heat exchanger, Maxim silencer, Sperry hydraulic throttle control and Jabsco sea water pump.

Scallop Catch at Oak Bluffs

A total of 1,235 bushels of scallops were commercially obtained from Oak Bluffs waters in 1957, according to the annual report of shellfish warden Albert E. Sylvia. It was also reported that 250 bushels of quahogs were taken commercially last year.

Among projects carried out to improve existing shellfish conditions were the destruction of 110 bushels of starfish and the planting of 20 bushels of oysters.

Boston Gets First Mackerel

A catch of 300 pounds of mackerel was landed in Boston on February 11 by the *Phantom* which had been fishing on Brown's Bank. The catch was sold to the First National Stores for 43 cents a pound.

The New Bedford scalloper *Flamingo* landed 10,200 pounds of the shellfish on February 12 including 144 tagged scallops worth \$1 each. The scalloper seems to have found the spot where the tagged shellfish were set out by the Fish & Wildlife Service, as in January the *Flamingo* brought in 27 tagged shells on one trip and 51 tagged ones on another trip.

The dragger R. W. Griffen, Jr., Capt. Warren Vincent, brought in 43,000 pounds of butterfish to New Bedford

on February 8. The catch was almost twice the total catch of that species of fish by the entire fleet up to that date, according to the Fish & Wildlife Service.

Reward for Tagged Whiting, Haddock Offered By Woods Hole Laboratory

Biologists of the Fish & Wildlife Service, Woods Hole, tagged 206 whiting off Scotland lightship early last month, and have offered a reward of \$1.00 for each tag returned.

Included with the tag should be the following information: 1. Date of capture. 2. Where fish was caught. 3. Depth fished. 4. Length of fish. 5. Where fish was first seen. 6. Type and name of boat that caught the whiting. Information from the tagged fish will be used to determine the annual movements along the Middle Atlantic coast.

Rewards of \$2.00 are now being offered by the Bureau of Commercial Fisheries for tagged haddock returned with tags still in place in the fish. The usual \$1.00 will still be paid for the tag alone. The Woods Hole Fisheries Laboratory tagged about 6,000 cod and haddock on Georges Bank and in the Gulf of Maine during October and November of last year.

Long Island Oyster Business Discussed at Conference

For two days last month scientists of the U. S. Bureau of Fisheries, together with biologists from certain other public and private institutions, reviewed the work of the Milford Fisheries Laboratory at Milford, Conn., and the production problems of the industry in Long Island Sound and New England.

Among those attending the conference were Dr. Paul Galtsoff, Dr. Victor Loosanoff, Harry Davis, J. B. Engle, Philip Nelson, Dr. Philip Butler, as well as John Glude, newly appointed Chief of the Shellfish Branch of the Bureau; Dr. Al Tester, Chief of the Division of Biological Research and Dr. Donald McKernan, Director of the Bureau.; David H. Wallace, Dr. Gordon Riley of Yale University, Dr. M. Carriker, N. C. University and Dr. Dayton Carritt, John Hopkins University.

The group agreed unanimously that the condition of the oyster industry in Long Island was critical and that many lines of attack should be used to bring about recovery. The conference recommended, to the Bureau and to the industry, a combined short and long term program.

A cooperative research and industry program was proposed to start immediate test transplantings of seed and/or market oysters from various areas in a controlled manner to determine survival, growth, etc.

A program for utilization of less salty rivers and creeks as sources of seed was discussed, but the plan needs action by state of Connecticut to make ground available.

Intensive research on artificial propagation and use of salt water ponds for seed production as well as studies on biological, physical and chemical methods of controlling drills was suggested.

Long Island Sound Starfish Increasing

Dr. Victor L. Loosanoff of the Fisheries Laboratory at Milford, Conn. reports that the starfish population of Long Island Sound is greater now than at any time in the 27 years he has been keeping his eye on it.

One oysterman, Butler Flower of Oyster Bay, N. Y. said his dredges have been picking up as many as 130,000 starfish in a seven-hour day.

The increase has occurred by an extraordinary imbalance of nature, not by any gradual population increase among starfish. A few years ago he had difficulty finding



THE "ADELE", from West Point Pleasant, N. J., is Meridian Marine Corp.'s, groundfisherman. She has two General Motors 6-71 engines of 165 hp. each, Twin Disc reduction gear, and Columbian 38 x 30 propeller and uses Socony Mobil fuel oil. Equipment includes Danforth anchor, Bendix depth sounder, Columbian rope.

a dozen specimens for his study tanks. But last year, the starfish survived in unprecedented numbers. This was because of an equally unusual crop of "duck" or "coot" clams—a small noncommercial shellfish on which the young starfish feed.

New Jersey Seeks Oyster Study

A decline of the oyster supply in Delaware Bay has resulted in the opening of some bay areas to the dredging of crabs in an effort to bolster the lowered Delaware Bay economy.

Oystermen have reported that a blight has killed many of the seed oysters planted two years ago. A study of the bay by the Fish & Wildlife Service, supplementing efforts of New Jersey authorities to determine the nature of the blight and a cure, has been requested by Congressman Milton W. Glenn.

Shellfish Director Christopher Riley said he hoped the study would be made this month in order that oystermen would have a basis on which to gauge their spring activities. Oystermen ordinarily plant baby oysters in mid-May but they now are hesitant about transplanting until the blight is identified and a remedy found.

New Jersey Clammers Defy Winter Weather To Carry On Trade

Near hurricane winds, zero temperatures and ice five inches thick at Barnegat Bay, New Jersey did not stop the Waretown clam diggers from plying their trade. A strip was sawed in the ice wide enough to use tongs to gather the clams and a sled was used to carry the clams to shore.

Two fisheries in the Wildwood area were at a standstill for an undetermined loss. Elmer Strauss of the Cold Spring Fishery, Cape May Inlet reported \$20,000 lost due to the frigid weather which iced the company dock area. The firm operates four draggers. Reports from the O. A. Huf Co. in Ottens Harbor stated that six small draggers and one large dragger were iced in at the docks.

Lewes, Delaware Leads In Menhaden

Lewes, Delaware was the leading industrial fish port in the country last year with total receipts of 286,224,000 pounds, consisting entirely of menhaden. Second in this type of fishery was Reedville, Va. with 256,766,000 pounds.

SOUTH ATLANTIC

Annual Virginia Fishermen's Association Convention Held

The Virginia Fishermen's Association held its annual convention at Old Point Comfort on February 2, 3, and 4, with Dr. J. L. McHugh being one of the principal speakers. His subject was water pollution which he says threatens the world's largest marine resource—the menhaden.

Officers elected at the meeting were R. L. Haynie, Jr., of Reedville; president, succeeding H. R. Humphreys, Jr. of Kilmarnock. Howard W. Smith of Beaufort, N. C. was elected vice-president and W. A. Mercer, local manager for J. Howard Smith, Inc. and Menhaden Products Co. was re-elected secretary and treasurer. Ammon G. Dunton of White Stone was re-elected general counsel.

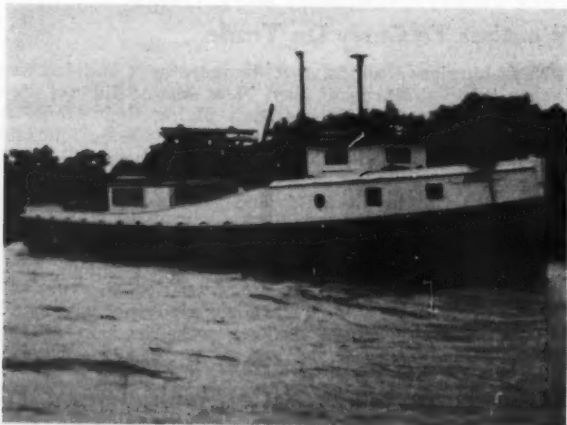
On another panel discussing research projects were Donald L. McKernan, director of the Bureau of Commercial Fisheries; Fred C. June, chief of menhaden investigation; Howard Eckles, Stewart Springer, chief of the Branch of Exploratory Fishing and Gear Research, and Donald Snyder of the Technological Section of the Fish & Wildlife Service.

The executive committee elected in addition to the officers include B. O. Colonna of Norfolk, T. H. Jett, Jr. of Reedville; George R. Wallace of Morehead City N. C.; G. H. McNeal, Jr. of Reedville and Otis Smith of Lewes, Del.

Dr. McHugh stressed the dangers of increasing population and industrial expansion to Virginia's important fishery resources. He said that most of our important seafoods spend at least a part of their lives in the rivers and estuaries where they are vulnerable to the effects of industrial and domestic pollution, as are oysters and clams.

Fish, like shad, rockfish or striped bass and river herring ascend the rivers into fresh water to spawn, and the young spend their first few months of life in these waters. The estuaries also are important grounds for blue crabs, croakers, spot, trout and menhaden.

Other speakers at the convention included Jack T. Styron, chairman, Industrial Products Division, NFI, and secretary of Wallace Menhaden Products, Inc. who discussed "The Relationship of Industrial Products Division of National Fisheries Institute to the Menhaden Industry"; Howard O. Sturgis, director, Industrial Products Division, NFI, spoke on "Highlights of Recent Activities of the



George W. Hall of Chincoteague, Va. has powered his 40' boat "Aque" with a 115 hp. Chrysler engine. The boat is equipped with Columbian rope and Ritchie compass and uses Esso fuel and lubricating oils.

Industrial Products Division"; Ralph C. Holder, consultant, Industrial Products Division, NFI talked about "The Challenge to Fish Processors in 1958"; Lamar Kishlar, of Ralston-Purina Co. spoke on "Enterprise and Economy"; Howard Eckles, acting chief of the Section of Marine Fisheries, Branch of Fishery Biology, spoke on "Problems Arising from Engineering and Development in Estuarine Areas" and Peter G. Schmidt, president of Marine Construction Design, Inc. on "Further Developments of the Power Block".

A panel discussion on the need for a public relations program in the menhaden industry was held on one day of the convention with Nelson Benedict of Newark, N. J. discussing the Atlantic Coast Viewpoint and Paul R. Kalman, Jr. of New Orleans, discussing the Gulf viewpoint.

Would Protect Seed Oyster Bottoms in James River

Legislation aimed at protecting Virginia's valuable seed oyster bottoms in the James River won approval last month before the Senate Fish & Game Committee. The bill would prohibit dredging in the James between the James River Bridge at Newport News and Jamestown Island without prior approval of the State Commission of Fisheries.

A compromise House bill introduced previously would let any city on a navigable stream assume damage claims from channel improvements made by the federal government, provided the project first had the advance approval of the Fisheries Commission.

Dr. James L. McHugh, director of the Virginia Fisheries Laboratory at Gloucester Point, told the committee the area between the James River Bridge and Jamestown Island was the nucleus of a very important oyster industry. He said deepening of the channel would increase the flow of salt water up the river and thus increase the salinity of the water. The result, he added, would be the appearance of damaging screw borers in the seed beds.

The House Committee on the Chesapeake and its tributaries deferred action on the above-mentioned bills until marine biologists and other experts could be called in for consultation.

Would Require Hearing on Virginia Fishing Regulations

A bill was proposed last month which would require the Fisheries Commission to give notice and hold a public hearing before ordering new regulations for fishermen. Howard H. Adams of Northampton and Melvin L. Shreves of Accomac introduced the bill to give the public a say in regulation changes.

The proposal would put into the statutes a law that requires advertising such hearings in at least three Tidewater newspapers 15 to 30 days in advance.

Aberdeen Creek Harbor Improvements

Hearings were held recently before Army engineers in Gloucester County, in the Middle Peninsula on a proposed dredging of a new channel and other harbor improvements at Aberdeen creek on the York River. Watermen said that the creek dredging would make possible a center for the seafood industry of the upper York River, and could be one of the best harbors between Gloucester Point and West Point. Currently proposed is dredging of a channel 80 ft. wide, 6 ft. deep and a turning basin 400 ft. square.

Several testified that the dredging of the creek would help greatly in their present business by making it possible to convey oysters by water instead of by trucks.

E. P. Roane, manager of the York River Oysters Corp. said his firm could save \$18,000 or more each year if the creek were adequate for use. Melvin Green, a waterman

who owns property on the creek said he would plan to install a small marine railway for boats in the creek if the channel is dredged.

Dredging of the creek would also be a great asset to crabbers and J. W. Ferguson of Remlik who operates two oyster houses on the Rappahannock, and owns oyster grounds on the York River, said the proposed project would help the seafood industry in general. He also said there is a great need for an adequate harbor for protection of small craft in case of storms, and that Aberdeen Creek would provide an excellent harbor.

Florida Working To Protect Gulf Oystering

At Tallahassee on February 27 a research firm studying the industrial potential of Northwest Florida reported that rigid controls and management can save the Gulf Coast oyster industry.

The research firm of Arthur D. Little, Inc. reported to the State Development Commission that in an area which could support prosperous fishing communities, they found below normal conditions, but that the industry could thrive there with proper management.

The research firm has contacted a large out-of-state oyster processor to try to interest him in locating in the area to give a boost to the industry.

Recommendations under consideration include a closed season on both public and leased beds during the summer months, prohibition of night oystering, a stricter enforcement of Board of Conservation regulations, a comprehensive program for full reporting of oyster catches, and a program providing for the use of shells by lease bed operators for seeding purposes on their own tracts.

Other proposed recommendations include a quality and grading control, cleaning program and a cooperative marketing scheme which would provide for promotion and sale of Northwest Florida oysters at favorable price levels.

Florida Hit by Cold Weather

Although prices of fresh seafood have been boosted to new highs this winter, Florida's commercial fishermen have suffered severe financial losses, according to Conservation Director Ernest Mitts. The fishing fleet has been kept in port much of the time by a succession of bitter cold waves which have also hampered fishing operations on those days when the boats have put to sea.

The Apalachicola area on North Florida's Gulf Coast has been the hardest hit and the Governor has been asked for emergency aid for the fishermen in this area. Shrimpers in the Key West area have been able to go out to their fishing grounds only 11 days out of 60 and shad fishermen on the St. John's River report that the weather was so cold that cloth gloves froze on their hands. St. John's River fishermen were granted an extra two weeks to pull in shad and herring, with season now ending March 15 instead of February 28.

In another move to aid distressed fishermen, Governor Collins reported he has asked the State Welfare Board to investigate getting surplus food from the federal government to distribute to them.

Good Florida Shrimp Production

Despite high winds and rough weather, boats fishing the Tortugas shrimp beds landed almost as much shrimp in Key West in January this year as last year.

C. E. Nickerson, port agent in Key West for the Fish & Wildlife Service, said 1,300,000 pounds of shrimp with the heads off, were landed in January 1958—almost as many as the 1,400,000 pounds produced in January of 1957. During the first two weeks of last month there were 437,600 pounds landed compared with 509,000 pounds during the same period in 1957.

More boats are fishing the area now than last year



The 58' combination ground and shrimp fisher "St. Jude", owned by W. R. Tate of Morehead City, N. C., was built by Morehead City Shipbuilding Corp. She is powered with a General Motors 6-110 Diesel turning 44 x 34 4-blade Federal propeller on 3" Tobin Bronze shaft through 3.75:1 reduction gear. Equipment includes Apelco radio telephone, Raytheon Fathometer, Surrette batteries, Danforth anchor, Hathaway winch, Wickwire trawl cable, and Wall rope.

and the trips made have been more frequent. Weather has usually cut them short, meaning most vessels aren't getting as much shrimp per trip as in years of better weather. However, during the first two weeks of February this year 647 trips were made—115 more than in the same period last year.

Tortugas Shrimp Being Studied

Shrimp in the Tortugas area are being sampled by the Marine Laboratory of the University of Miami, under a Saltonstall-Kennedy Act contract with the Bureau of Commercial Fisheries. Using a chartered vessel, the Marine Laboratory is studying the distribution of shrimp by size, depth and sex. Results will provide basic knowledge of the distribution, migrations, and growth of pink shrimp on the Tortugas grounds off Key West.

In conjunction with this study, the Bureau of Commercial Fisheries is preparing to conduct large-scale shrimp-marking experiments to determine the rates of growth and mortality and to study the population units in the fishery.

Maryland Production Slowed By Frozen Sounds, Rivers

Toward the last of February activity along the waterfront increased as both oyster and crab fishing showed much improvement. The ice had disappeared from the rivers and sounds and watermen were able to get to their work.

Ice conditions during mid-February in the waters of Annapessex River, Pocomoke Sound and other nearby oyster tonging areas were so bad that Crisfield tongs were unable to get out to work. Boats were frozen in at their moorings in the various harbors in Crisfield, Jenkins Creek and Ape's Hole Landing sections.

A few shell-stock oysters had been brought in previous to the freeze by buy-boats who had bought some shell-stock from dredgers operating across and in upper sections of the bay. A few shell-stock were also brought in by truck during the last week in February.

Old-time weather observers stated that this was the first time for many years that local waters have been frozen solid at the beginning of the Lenten season. During this season there is always a noticeable increase in the demand for oysters, crabs, crab-meat as well as most varieties of seafood.



Walter W. Duncan of Oxford, Md. uses his boat "L. A. Parks" for pound netting. The 50' boat is powered with a 100 hp. Buick engine which turns a Columbian 18 x 18 propeller. It is equipped with Exide batteries and Ritchie compass.

Uphold Maryland Governor's Veto of Menhaden Bill

Governor McKeldin's veto of a bill which would have made lawful the catching of menhaden with buck or purse net in Maryland waters was sustained by the state legislature last month.

In another development, spokesmen for the Maryland Rockfish Assoc. announced they would seek the enactment of state legislation requiring everyone over 16 years of age to purchase a \$1.50 annual license for salt water fishing. The money raised would be earmarked for research and management of finfish in Chesapeake Bay.

Maryland Bill Would Permit Oyster Dredging on Potomac

A bill to give the Tidewater Fisheries Commission of Maryland full power to regulate oystering on the Potomac River has been introduced in the Maryland Legislature.

The bill would disregard all oyster laws now on the books with regard to the Potomac River and leave it up to the commission to make its own rules and regulations.

Under the terms of the bill the commission could open the river to dredging which has been prohibited since the 1930's.

Georgia Fish Production Increases

During 1957, landings of fish and shellfish at Georgia ports amounted to 18.7 million pounds, an increase of 2.0 million pounds when compared with the 1956 landings.

December landings also showed an increase of 314,000 pounds compared with the same month of 1956. Larger catches of shrimp and blue crabs were primarily responsible for the increased production in December 1957.

To Study Georgia Bill Prohibiting Power-drawn Shrimp Nets in Rivers

A shrimp dragging bill was read for the first time last month in the Senate and was assigned to the agricultural and natural resources committee for study.

The bill which would prohibit all dragging for shrimp with power-drawn nets in the county's rivers and streams, has passed the House of Representatives.

Fishing camp operators have asked to be allowed to continue to drag for shrimp to be used as live bait. However, Rep. Edward Brennan, author of the bill, has declined to add an amendment to allow the operators to do this.

Survey Off South Carolina For Deep Water Shrimp

The experimental research vessel *Delaware* left Boston last month to begin a deep water survey of shrimp off Carolina coast. The request for this survey was made by State Sen. J. D. Parler of Dorchester County, G. Robert Lunz, director of Bears Bluff Laboratories and members of the Atlantic States Marine Fisheries Commission from the four South Atlantic states.

Bears Bluff Laboratories will cooperate in any way it can and Stewart Springer, chief of the research unit was expected to visit Bears Bluff last month to discuss various objectives for work along the entire coast from Cape Hatteras southward.

North Carolina Association Elects New Officers

The North Carolina Fisheries Association at its annual meeting in New Bern last month elected the following officers: Roy Watson of Hobucken, president; Dick O'Neal of New Holland, vice-president; Fred Whitaker of Kinston, executive secretary and John Rodman of Washington, attorney.

The following were elected directors of the Association: Area directors: John Waff, Albemarle; Dick O'Neal, Hatteras; Roy Watson, Pamlico; W. H. Potter, Morehead City; Lonnie Everett, New River; and Lewis Hardee, Southport.

In the fishery classifications the directors elected were: Earl H. Holton, finfish; George Wallace, menhaden; Clayton Fulcher, Jr., shellfish; Clyde Potter, crabs; and T. B. Smith, shrimp. Walker M. Lasker of Beaufort was elected director of a new supplier classification for the men from whom the commercial fishermen get their equipment and supplies.

Directors at large elected were William A. Ellison, Jr., whose return from Formosa is expected in the Fall; William J. Ipock of Morehead City and John W. Smith of Atlantic.

Big Mullet Catch at Stumpy Point

Four fishermen from Stumpy Point caused a lot of excitement last month when near the Fisherman's Exchange Dock they struck fish with their oars and decided to throw out their net and make a haul to see what they could get. Setting their net not more than ten feet from the dock and shoving out toward the mouth of the channel, they made a circle and started pulling their net in. The fish were so heavy they had to call for extra help. They finally brought in 4200 pounds of mullet.

Cold Causes Million Dollar Loss

Commercial fishermen of Northeastern North Carolina have estimated their losses due to the extreme cold weather of last month at a million dollars, of which a quarter million is in loss of nets, stakes and labor of getting ready, and the rest in the estimated loss of the catch this season which will be reduced by a late start and a poor one.

Fishermen in upper Albemarle Sound had not yet put their nets in for the season and they are more fortunate in this respect.

This year the fishermen are asking that instead of stopping the taking of shad April 5 they be allowed to continue taking these fish until May 15. Oystermen of the state are also seeking an extension of the season which was scheduled to end March 1. This extension would compensate for the loss of dredging time when the waters were frozen. The annual revenue from the commercial fishing industry of North Carolina is estimated to be some 15 million dollars.

GULF OF MEXICO

Texas Fishermen Form New Aransas Shrimp Association

The Aransas Shrimp Association was organized with 26 members at a meeting in Aransas Pass in mid-February. It is a joint effort of shrimpers and seafood operators to boost Aransas Pass shrimp.

Jim Barr, executive secretary, and John Nehos, a director and membership chairman, members of the Texas Shrimp Assoc. were special guests. They outlined the advantages which the regional group could derive from affiliating and working with the state-wide organization.

C. O. Robert was elected president of the new association, with C. E. Farley, first vice-president; Sydney Herndon, second vice-president; and L. E. Ray, secretary-treasurer. Gene Webster, Oscar Galjour and Murray Mobley were elected directors. All officers will serve on a membership committee, and an attempt will be made to bring as many members of the seafood industry into the new organization as possible.

Harbor Ice Co. Sold At Aransas Pass

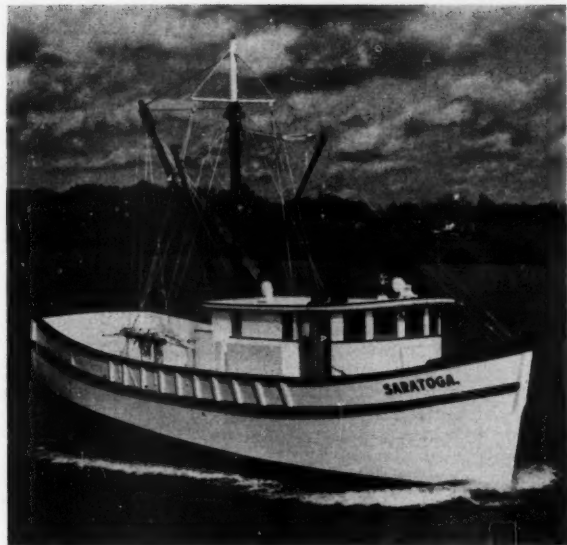
Southern Texas Ice and Service has bought the Harbor Ice Co. on the east side of Conn Brown Harbor at Aransas Pass, and expects to continue operating the utility to supply ice to shrimpers and to refrigerate trucks. Built by Gilbert Edwards and L. S. Wood a few years ago, it was the first plant at Aransas Pass to freeze doughnut-type ice. The plant's capacity is 80 tons a day. It will continue to operate under the original name: Harbor Ice Co.

Shrimp Catches Increase At Leading Texas Ports

Landings of headoff shrimp at principal Texas Gulf ports for the 30-day period ending February 20 was 1.97 million pounds, an increase over the 1.9 million pounds of the previous 30-day period. The entire production came from the Gulf, since bays were not opened until March 1. Brownsville-Port Isabel area led the Aransas Pass-Corpus Christi district for first place. Edible finfish landings for the same period totaled 147,000 pounds. Prices to fishermen were up and the supply was adequate.



THE 68' SHRIMPER "SAN GEORGE" has 165 hp. General Motors 6-71 Diesel turning 42 x 36 Columbian propeller through 3:1 Twin Disc reduction gear. Equipment includes Columbian rope, Northhill anchor, Bendix depth sounder, RCA Radiomarine radiotelephones, Western Jib nets, Stroudsburg hoist, and Bethlehem wire rope. She is owned by J. W. Bingly, E. J. Bingly, of San Benito, Tex.



Versaggi Shrimp Co. of Paterson, La. owns the 67' shrimp trawler "Saratoga" which is powered by a 150 hp. D-342 Caterpillar Diesel with 3:1 reduction gear turning a 50 3/4" Columbian propeller. She was built by Diesel Engine Sales, Inc., St. Augustine, Fla., and has Goodrich Cutless Bearing, Walter Keel cooler, Tobin Bronze shaft, Ritchie compass, Stroudsburg hoist, Columbian rope, and Styrofoam hold insulation.

During the year 1957 Texas fishermen caught more shrimp, got higher prices and bought more new boats than in 1956.

Biologist Appointed To Laguna Madre

The upper Laguna Madre again will have a fisheries biologist, according to a recent announcement by the State Game and Fish Commission. Ernest Simmons who held this assignment previously for several years will return to the now vacant post.

Begin Expansion of Conn Brown Harbor

The first phase of Conn Brown Harbor's expansion program is to close the gap between the south end of the harbor and the Spoil island to the south and east. Bids for the work were expected to be taken late this month or early next.

When completed the new basin is expected to accommodate all pleasure and oil company boats, leaving Conn Brown Harbor for use of the 400 trawlers now comprising the Aransas Pass shrimping fleet. The new basin is located on city-owned land about two miles south of Conn Brown Harbor and near Lydia Anne channel.

"Silver Bay" Trawling for Redsnappers

During its recent cruise off the south central coast of Texas and directly east of Rockport, the exploratory vessel *Silver Bay* devoted 20 days to experimental work trawling for redsnappers. A New England style trawl, rigged for work over rough-broken bottom, was used in the tests. Thirty-nine drags were made in depths ranging from 10 to 100 fathoms, according to Harvey R. Bullis, Jr. who is in charge of exploratory work in the Gulf. Red-snapper catches ranged from nothing to 475 pounds.

On one day during calm weather, four drags yielded 580 pounds. The snappers ranged in size from 1/2 to 25 pounds, and averaged about two pounds each. A total of 1200 redsnappers were caught during the cruise, along with a small catch of porgies, grouper and vermillion snappers.

Mississippi Group Plans Aid For Oyster Industry

A group of about 75 persons directly and indirectly connected with the oyster industry attended a meeting held in Biloxi last month to discuss four main points affecting the oyster business in the state.

The meeting was conducted by Bill Simpson of Gulfport and the subjects discussed were appropriations needed for oyster improvement, ways of securing sources of fresh water needed for growth and survival of the oyster, ways of bringing a closer relation between Mississippi, Louisiana and Alabama, and problems concerning the state oyster reefs.

State Legislator Daniel Guice, in speaking of the matter of appropriations, said it would be best to attempt to get aid from the federal government or use the money now in the treasury of the Seafood Commission. It was also suggested that one source of money was the Saltonstall-Kennedy Fund and Dr. Gordon Gunter of the Gulf Coast Research Laboratory was mentioned as being the person to contact to learn more about this fund.

The fresh water discussion revolved around the opening of the Violet Canal. A committee was appointed to attend a meeting of the Fish & Wildlife Commission in Louisiana in an attempt to get the waters opened.

A better agreement with Alabama was asked in order to obtain a closer relation between the states. This is the first year Mississippi has been allowed to dredge oysters in Alabama waters in recent years.

Reef rehabilitation problems primarily concerned the bill in the legislature that brings the seafood laws up to date. Part of the bill would allow the Seafood Commission to lease water bottoms not considered natural reefs. The factorymen agreed that it might be wise to allow these water bottoms to be leased in small amounts to private concerns who would plant the leased plots, giving an added supply of oysters to the industry.

Plan Mississippi Deepwater Fishing Bank

Plans for a deepwater fishing bank somewhere between the Ship Island and the Chandeleur group were outlined last month by the Gulfport and Biloxi Chambers of Commerce after a meeting earlier in the month with Roy H. Martin of Panama City, Fla., who has aided such projects in his home area.

Within six months after the fishing banks are built, thousands of pounds of all kinds of fish will inhabit the area. The trick is to sink derelict automobiles and tires into a spot about 60 feet below the surface of the water. After crustaceans form, small fish begin to feed there and larger fish feed on the small fish. A public drive for sinkable trash is expected to be conducted and the material will be dumped overboard at the site.

Working on the project are Jack Moody and Carl Alfonso from Gulfport and Wesley Compton, Fernando Gautier, H. L. McQueen and Ralph Baker from Biloxi.

Group Forms Alabama Sea Foods Protective Association

An organizational meeting of fishermen was held last month at the Heron Bay Parish House. The group is to be known as the Alabama Sea Foods Protective Association. Incorporation papers were filed and officers to serve the first year are: Albert Johnson, Heron Bay, president; Jimmie Collier, Alabama Port, vice-president; Percy Thompson, Heron Bay, secretary, and Lloyd Smith, Bayou La Batre, treasurer. Membership is estimated at between 400 and 500.

By-laws of the organization included appointment of a legislative committee, to be named in May. The constitu-

tion provides that the Association will encourage, foster and protect by all legal means, the oyster, shrimp and general commercial sea food industry of Alabama.

Membership is open to anyone over 16 years of age who is engaged in producing, processing, packing, transporting, distributing or selling sea food or any by-products.

Ten directors were elected as follows: Delbert Tillman, Bayou la Batre; James Zirloff, Heron Bay; William Steiner, Bayou la Batre; Claude Noel and Nick Johnson, Coden; John R. Nelson and Lawrence Nelson, Bon Secour; Clyde Sprinkle, Alabama Port; Arnold Collier and Curt Previto, Dauphin Island.

State Senator Garrett Van Antwerp spoke at the meeting and said he would introduce legislation to abolish the Sea Foods Division of the Alabama Dept. of Conservation and have its functions turned over to a commission.

If the Sea Foods Division is abolished, the functions of the divisions and all sources of revenue would go to a commission, which should consist of three to five men who know sea foods.

New Boats From Biloxi Shipyards

Brander's Shipyard of Biloxi, Miss. launched two 62-foot deep-sea shrimp trawlers last month. They are the *Pamela Gillis* for the Taltuvall Shrimp and Oyster Co. of Biloxi, and the *Socrates* for Liberty Fish & Oyster Co., Galveston, Tex.

The "Florida-type" boats, built at a cost of \$40,000 each, are the first of their design to slide off Biloxi ways. Two other similar boats are under construction.

The *Socrates* can hold 36 tons of ice and is powered by a D342 Caterpillar Diesel, swinging a 5-blade Columbian propeller. She is the 11th vessel in the fleet of the Liberty concern, which is owned by D. A. Caravageli. The trawler is double rigged and will fish off the Texas and Mexican coasts. Brander has orders to build three more boats for Liberty.

Toche Boat Builders of Biloxi has completed a 60-foot deep-sea shrimp trawler, the *Joan Fayard*, for Leckich and Fayard Seafood Co. of Biloxi. Completion of the new boat will be handled by the McElroy Machine Works of Biloxi, according to R. A. Fayard, owner.

The Toche firm is operating from a newly-built shipyard on a tributary of the Bay of Biloxi. For repair work, the yard is using a 50-ton lifter, which straddles boats in the water, lifts them and rolls them to dry land to any location on the shipyard property.

Two more shrimp trawlers of the same size as *Joan Fayard* are now under construction by Toche for Biloxi operators, and a third will be started soon for Florida waters.

Covacevich Shipyard, Biloxi, recently completed a 65' party boat for George Davis of Panama City, Fla. A. W. Covacevich, owner of the yard, reports that two more of this type deep-sea trolling boats are under construction—one for Mich Herchy of St. Petersburg, Fla. and the other for E. M. Hobbs of Panama City, Fla.

Two 65' deep-sea shrimp trawlers are being constructed by Covacevich—one for M. L. Frakich of Aransas Pass, Tex. and another for Eule Duet of Golden Meadow, La. The yard is currently refrigerating two 135-foot steel boats for Bernard Walker Company of Pascagoula, Miss.

Oyster Dredging in Mobile Bay Discussed

The question of opening parts of Mobile Bay to rake dredging of oysters was discussed in a conference last month with Gov. James E. Folsom, but no immediate decision resulted.

Perry Prescott, assistant director of the State Conservation Dept. said the governor withheld action until he could confer with Conservation Director Bill Drinkard.

Some fishermen want rake dredging permitted in the bay but others are opposed to it, preferring to harvest oysters by tonging. No rake dredging is allowed at present.

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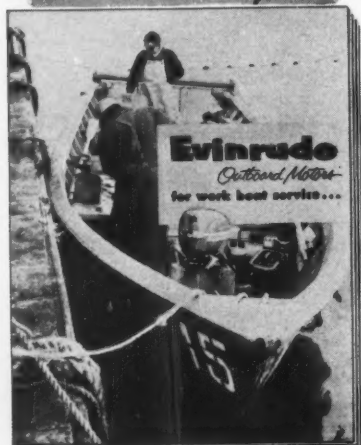
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GREAT LAKES

Catches Curtailed By Severe Weather

Heavy snowfall and freezing temperatures in the Great Lakes region lowered commercial production of freshwater fish as much as 300,000 pounds during one week. From Lake Superior few if any lake trout and whitefish have been taken recently and the bad weather cut production of commercial ice fishing for smelt to below average for this time of year. However, this month fishermen expected that production would increase considerably in smelt, herring, whitefish and lake trout.

On Lake Michigan, chub production was good but weather curtailed operations at times. Supplies reaching metropolitan markets recently have been dominated by Canadian whitefish, followed by buffalofish and chubs. Most of the other fresh water fish have been in short supply and yellow perch, sauger, yellow pike and catfish are very limited.

From Lake Huron, where the same conditions existed, production was down—most of the take coming from ice fishermen on the Saginaw Bay shelf.

On March 25, Lake Erie was again opened to open water commercial fishing at which time fishing fleets based in the lake will again start spring operations with hopes for substantial catches in their trap and gill nets.

From Lake Ontario comes reports that little commercial fishing was in progress last month, except for the fishermen operating through the ice.

Spring Stocking Shows 85 Percent Returns

Any spring stocking versus fall stocking argument seems to be settled insofar as lake trout are concerned. The Wisconsin Conservation Dept. reports that returns from Lake Superior plantings showed that 89.5 percent were spring releases.

The Department pointed out that the hatchery-reared fish are bigger and thus less apt to become food of other fish. While they cost more, the cost is outweighed by the greatly increased survival rate.

Seek Trout Hatchery Sites

Federal fisheries men are searching for hatchery sites with water suitable for raising trout by the millions, and because of this, it is thought by some that an ultimate victory over the lamprey may be in sight.

Several 300 ft. deep wells are planned on the shores of Rock Lake at Lakes Mills, Wis. to find out if enough artesian water can be lifted

to raise 16,000 pounds of yearling trout annually. Lake trout water must remain warm enough in winter to insure reasonable growth, and still be cold enough in summer to keep the fish from dying.

The hatchery at Lake Mills now raises mostly large and smallmouth bass and a limited number of brook trout and bluegills. However, if the right kind of water can be found, the emphasis will be on lake trout.

Lampreys at Apostle Island

About 80 percent of the lake trout in the Apostle Island area of Lake Superior are sea lamprey scarred this year, according to Russell Daly, assistant area supervisor for the Wisconsin Conservation Department.

He reported that excluding the lake trout under 24 inches, the proportion scarred would be closer to 100 percent.

He believes that despite a stepped up lamprey control and lake trout stocking program, it appears that the Lake Superior lake trout fishery will decline somewhat below its present level.

Ohio Landings Increase

December 1957 landings of commercially-caught fish at Ohio ports on Lake Erie, totaled 160,000 pounds compared with 141,000 pounds for the same month of 1956.

Leading species were yellow pickerel, yellow perch, carp and whitefish, and these four species accounted for 81 percent of the month's total landings. Species showing sharp increases were yellow pickerel, carp and sheepshead.

Reports on Icing of Fish

Dr. W. J. Dyer, Fisheries Research Board, Halifax, in a report on icing of fish, said that present-day refrigerator cars transport fish at temperatures near 15°F. This temperature can affect the quality of frozen fish which are normally held at zero degrees F or lower, and efforts should be made to provide lower temperatures during refrigerator car transportation, even for short periods.

Big Carp Catch Helps Perch

According to Henry Engelhard, co-owner of the Bay Port Fish Company, Bayport, Mich., the best perch fishing in Wildfowl Bay is due in three years. He based his estimate on the catch of giant-sized carp that is being taken this winter. Huge carp weighing over seven and

as high as 35 pounds are being taken with large eight-inch nylon gill nets set under the ice.

The carp roil up the water, eat up the vegetation, and eat great amounts of perch spawn as well as ruining their spawning beds.

Catches of 200 to 300 pounds from a single net have occurred quite often and parties operating several nets have caught as much as 3,000 pounds in a single day. One group of fishermen has set up an underwater twine cage where they stock pile their catches.

Usually the big carp catch comes in May when the market is low, but now they command a good price while at the same time their removal will help perch spawning.

Commission Research Vessel

The Department of Lands and Forests of Ontario has recently commissioned a new fisheries research ship to sail the Great Lakes. It was built in Powell's Shipyard, Dunnville, Ont., and launched there last October.

"Caribbean Sea"

(Continued from page 13)

Nabstedt 3:1 reduction gear, sold by Gibbs Corporation of Jacksonville. The engine swings a 50x34 Columbian Bronze propeller on a 3" Tobin Bronze shaft with Goodrich Cutless rubber stern bearing, and is cooled by a Walter Clean-Flo keel cooler.

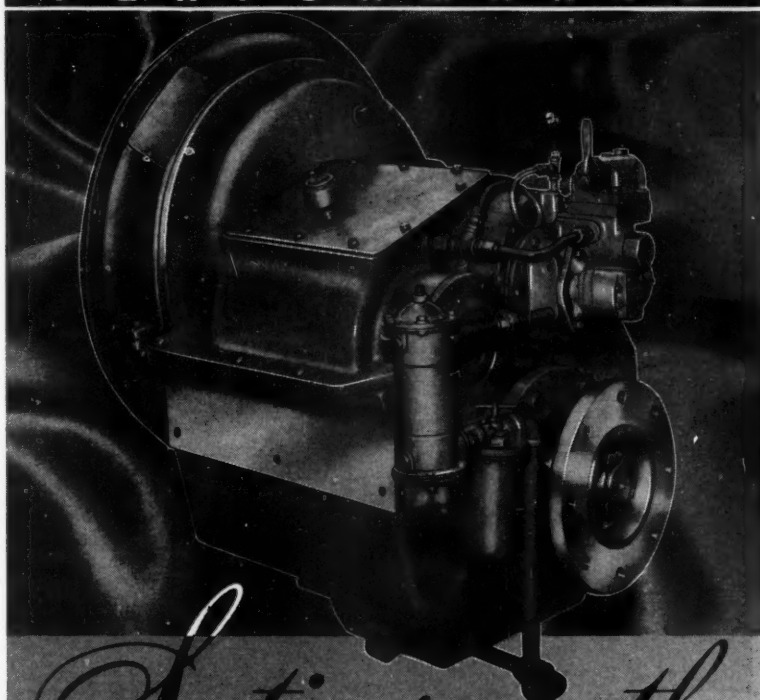
The vessel has a beam of 18'6" and draft of 6'6", and is framed with 2 1/4 x 4 1/2 steam bent oak on 12" centers. Her 1 1/2" planking is cypress on the bottom and fir on top, and decking is 2x4 pine payed with Jeffrey's Marine glue.

Built of cypress with pine studing, the deckhouse is 23' long and 8' wide. It has 11 windows and 4 doors, and contains the wheel house, galley and three bunks. Styrofoam insulation is used in the hold, and the boat has Gloucester Sea Jacket paints on the topsides and Navicote anti-fouling paint on the bottom.

Electrical equipment comprises a 1500-watt Petter Diesel generating unit, 32-volt Yocam batteries, and a 32-volt constant voltage Electro Marine alternator. The boat carries a 7" Ritchie compass, Apelco radiotelephone, One-Mile-Ray searchlight, Metal Marine automatic pilot, Bendix depth recorder, and Kidde fire extinguishers. Fuel capacity is 6000 gallons and there is a Jabsco auxiliary bilge pump.

Deck gear includes a Hathaway No. 72823 hoist, Madesco tackle blocks and 600 ft. of 1 1/4" Columbian anchor rope. The vessel has two 4 1/2" diameter, 26' long outrigger booms, 8" steel reinforced mast with 6" steel pipe boom, 3/4" galvanized rigging cable and rods and two 10" towing blocks.

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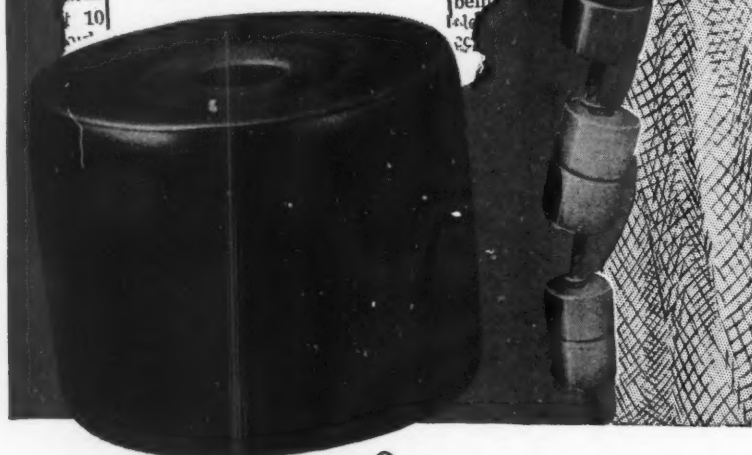
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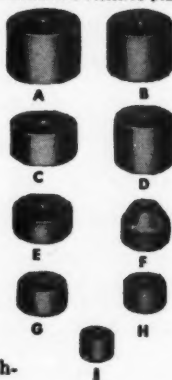
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Boat Insurance Study Completed

Recommendations in a master plan for fishing vessel insurance, suggested by two Boston University professors in a report to the Fish and Wildlife Service, include an intensive engineering survey of commercial fishing vessels from the standpoint of navigation and safety devices; a study of the possible conflict between safety at sea and fishing operations; and a program to secure maximum safety and minimum conflict with fishing operations.

Because insurance costs have been a major item of expense to commercial fishing vessel owners, the Department of Interior authorized the analysis of the problem.

The plan emphasizes that the government should participate in the form of services instead of direct payments to individuals, that it should consist of measures to prevent accidents or reduce their severity, and that a well coordinated plan and the faithful pursuance of that plan would bring the best results.

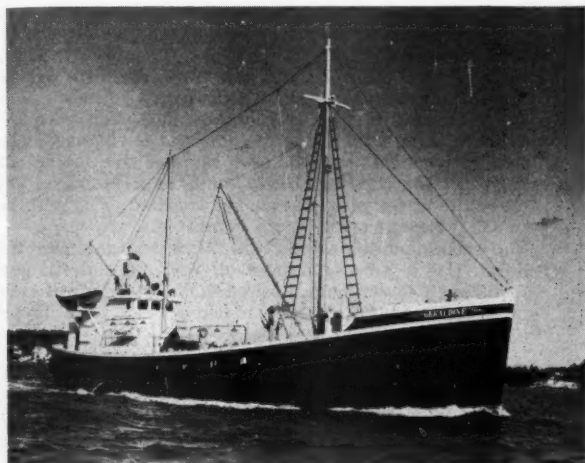
According to the proposed plan, there should be encouragement to construct new vessels that would conform to the standards of safety and structure developed by the survey. Concerning existing vessels, the owners should be encouraged to install approved safety devices.

Also recommended was a system of licensing masters engineers, and navigating personnel. The system would have rigid requirements for new people coming into the profession, with more lenient standards for those already established.

The plan would establish an educational program to train captains, engineers and navigators, and would explain the fundamentals of negotiating insurance contracts. Owners and crews would be trained for safety consciousness. Cooperation in the insurance field and between labor and management, and the application of better business techniques in the cost accounting and determining depreciation would be emphasized.

Only certified marine surveyors would be allowed to determine the insurability of a vessel. The compensating of a surveyor only when a vessel is insurable would be discontinued. Vessels of less than 200 gross tons would be inspected by the Coast Guard. When ever possible the government would encourage limited self-insurance plans and the creation of insurance co-operatives. A system of registration of accidents would be established and a systematic compilation of accident and loss statistics developed.

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Keep Outboard Motor in Top Shape

(Continued from page 12)

(not too tight.) Then turn it left $1\frac{1}{2}$ turns. 4. Replace the lever so the pointers are set midway on the dial. Be sure the shaft position is not changed. Replace screws and tighten securely while holding levers in position.

If inspection of the fuel filter shows sediment accumulation in the glass bowl, proceed as follows: Before removing the filter, obtain a new filter bowl gasket from your dealer, disconnect the fuel supply line from the motor, and—1. Loosen the filter bowl nut and remove the glass bowl. 2. Remove filter element by unscrewing the knurled nut. 3. Wash filter element and bowl thoroughly in clean gasoline. 4. Assemble in reverse order as described above. A new filter bowl gasket should be used; if new gasket is not available, use old gasket until new one can be obtained. 5. Tighten filter bowl nut securely.

To clean the carburetor float chamber: 1. Remove the shroud. 2. Remove the choke knob, High and Slow Speed levers and control panel. 3. Remove the two grommets, washers and springs. Unscrew the needle valve nuts. 4. Take out the two cap screws holding the sides of the air silencer to the mounting brackets. 5. Unscrew the two fillister head screws from the front of the air silencer and remove the silencer and gasket. 6. Remove pin and bushing holding link from carburetor to throttle lever. 7. Unscrew the two nuts on the carburetor mounting flange and pull carburetor forward as the nuts are loosened to provide clearance. 8. Depress the clamp on the fuel line and disconnect the line from the carburetor. 9. Remove the four screws holding the float chamber. 10. Take out the hinge pin, float, float valve, seat and gasket. 11. Clean the float chamber and component parts with fresh gasoline. Blow out fuel passages with compressed air (if available.) 12. Reassemble the parts as illustrated in exploded view (Fig. 1). Be sure the hinge on the float is toward the bottom. Use new gaskets if the old ones are damaged.

Compression Relief Valves and Magneto Points

The gap in the compression relief valve tappets should be set at 0.018 to 0.025 inches (cold motor), using a feeler gauge. To adjust the gap, loosen the hex locknut and turn adjusting screw in or out as necessary. Tighten locknut securely and recheck gap. Be sure to adjust both valves.

After extended use, it may be necessary to adjust the magneto breaker points. The gap between the points should be set to .020 inches using the feeler gauge which is provided with the motor. 1. Remove the shroud. 2. Remove the starter assembly. 3. Remove the starter ratchet and inspection port cover from flywheel. 4. Turn flywheel until one set of points can be seen through inspection port in flywheel. 5. Loosen the anchor screw. Turn adjusting screw left or right until feeler gauge binds slightly between the points. Retighten the anchor screw (Fig. 2). 6. Follow the same procedure to adjust the other set of points. 7. Reassemble parts removed.

To clean the magneto points, follow steps 1 through 4 and then wash each set of contact points with carbon tetrachloride.

Care of Lower Unit

There are certain precautions that salt water fishermen should observe with outboard motors. Never leave the gearcase in the water when the motor is not in use for long periods of time. It is not necessary to flush the cooling system after salt water operation; rinse off the exposed parts with fresh water and wipe with an oily cloth. If the motor is removed from the boat, move throttle to extreme slow position, slowly pull manual started grip several times to insure complete draining of the water pump. Be extremely careful not to accidentally start the motor.

When operating in freezing temperatures, keep the lower unit submerged in the water at all times to avoid freezing.



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ing and possible damage to the water pump. Be sure to completely drain water from the cooling system when removing the motor from the boat.

Lubrication of Motor

For gearcase lubrication, use SAE 90 Automotive hypoid gear lubricant. In emergency only, use outboard motor oil or another SAE 30 engine oil, but replace with hypoid gear lubricant as soon as possible. The oil level should be checked after the first 5 hours of operation, and after that at least every 50 hours of operation. Drain and fill the gearcase once each season.

When a complete change of lubricant is required, place motor in vertical position and remove the lower plug and gasket, marked "Oil Drain" on side of gearcase. Then remove the upper plug and gasket, marked "Fill with Hypoid Oil." Permit oil to drain completely.

The recommended method of filling the gearcase is as follows: Use a tube of hypoid oil SAE 90 and fill gearcase through lower hole marked "Oil Drain" until lubricant appears at upper hole marked "Fill with Hypoid

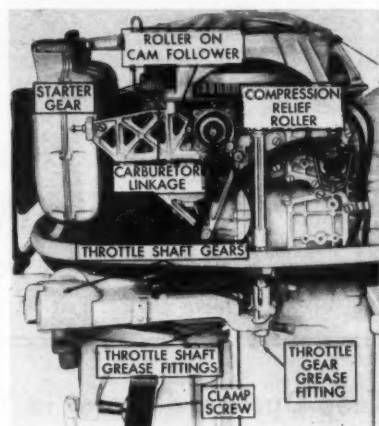


Fig. 3—Points which require lubrication on an outboard motor.

Oil." Replace upper plug and gasket securely before removing the tube from the lower hole. This will create an air lock and hold the oil in gearcase until lower plug and gasket can be secured. If the recommended hypoid oil cannot be obtained in a tube, use a pressure oil can of the sealer type and follow the same procedure as above.

In the event that the tube or pressure oil can are not available, proceed as follows: Drain gearcase and replace lower plug and gasket, marked "Oil Drain." Fill gearcase with available oil can through upper plug hole marked "Fill with Hypoid Oil." Air bubbles at fill hole may give impression that gearcase is full. Wait a few minutes to permit air in gearcase to escape, then add more oil to fill. Replace fill plug and gasket securely.

Your outboard motor's swivel bracket, shift lever, throttle shaft and gear should be lubricated every 60 days in fresh water operations and every 30 days in salt water, using outboard waterproof gear grease and a pressure gun.

SAE 30 oil should be used to lubricate the carburetor, choke and magneto linkage, roller on cam follower and throttle shaft gears, every 60 days in fresh water and each 30 days in salt water.

The clamp screw needs to be lubricated every 60 days in fresh water and each 30 days in salt water, using outboard waterproof gear grease. This type of grease also should be used after storage on the grooves for compression relief roller.

Motors Dropped Overboard (Not Running)

1. Recover motor from water immediately, if possible.
2. Remove shroud, High and Slow Speed knobs, choke knob and control panel.
3. Disconnect spark plug

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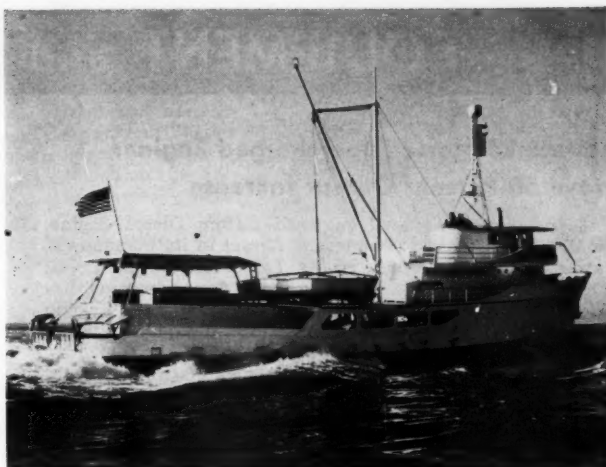
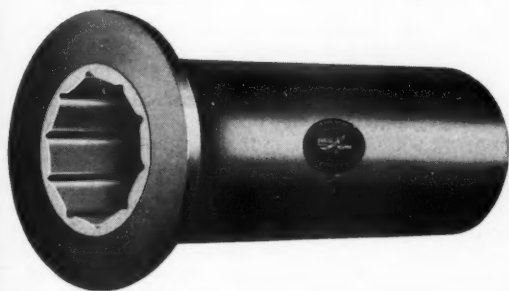
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AKRON 8, OHIO

Engineers and National Distributors

leads and remove spark plugs. CAUTION—Detach rubber covered spark plug lead covers and ground spark plug lead terminals by attaching them to motor block. 4. Work out as much water as possible by pulling the manual starter grip several times with motor in upright and inverted positions. Pour a small amount of oil through the spark plug hole into each cylinder and pull the manual starter grip several times to distribute the oil. 5. Remove Ready Pull Starter and remove flywheel inspection port cover. 6. Blow air through the inspection port to remove water from magneto. Wipe magneto dry with a clean cloth, being sure no water stays between contact points. 7. Remove high speed needle to drain carburetor bowl. CAUTION—Loosen needle packing nut before removing needle. 8. Reassemble parts you removed and follow starting instructions. 9. If motor fails to start, remove spark plugs again to see if water is present between electrodes.

Blow out any water from between electrodes and re-install or replace with new ones. If the motor still fails to start have it serviced immediately. Motors which have been submerged must be started or disassembled as soon as possible or extensive repairs will be necessary. To minimize damage, motor must be started or serviced within approximately 3 hours after recovering.

Motors Dropped Overboard (Running)

Follow the same procedure as Motors Dropped Overboard (Not Running.) However, if there is any binding when flywheel is rotated (by pulling manual starter grip), it indicates a bent connecting rod and no attempt should be made to start the motor. Have it serviced immediately.

For motors dropped overboard in salt water, follow the same procedure as Motors Dropped Overboard (Not Running) and (Running), but take the motor to your dealer as soon as possible, even if it can be started, as salt water can cause excessive corrosion of magneto and internal parts.

NORTH HILL

DIGS FAST . HOLDS FAST . . . BREAKS OUT EASY



EQUIPMENT and SUPPLY NEWS

Fairbanks-Morse Supercharged Engines Have 50 Percent Output Increase

A turbo supercharged, opposed piston, Diesel engine, smallest and lightest commercial Diesel in its horsepower range, has been announced by Fairbanks-Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill. Supercharging has added 50 percent to the capacity of the engine, making it available in ratings up to 3,600 hp. and giving a fuel consumption saving of 5 to 10 percent.

Improvements in supercharger efficiency, careful matching of the turbocharger and utilization of pulse energy, as well as the scavenging characteristics, of the opposed-piston engine, have permitted the development of a substantially self-sustaining turbocharger unit.

Turbocharging is available in the 6-cylinder and 12-cylinder $8\frac{1}{2} \times 10$ " opposed-piston engines. The 6-cylinder engine weighs 24,900 pounds or 2,000 pounds more than the non-supercharged engine. The 12-cylinder unit weighs 4,000 pounds more than the corresponding non-supercharged model or 46,000 pounds.

A top rating of 3,600 hp. at 900 rpm gives the 12-cylinder engine a weight of 12.8 pounds per horsepower. It is expected that most marine applications will operate at 850 rpm.

With the turbochargers mounted on the end of the engine and extending a little beyond the normal piping connections, the space required for installation of a supercharged engine is nearly the same as for a non supercharged unit.

In the Fairbanks-Morse opposed piston Diesel, two pistons operate in a common vertical cylinder, open at each end, eliminating cylinder heads, intake valves, exhaust valves, rockers, push rods and head gaskets. The two banks of pistons power upper and lower crank-shafts, which are connected by a vertical shaft and gearing.

As the pistons approach each other near the end of their compression strokes, the air charge is compressed between the concave piston heads forming the combustion chamber. Two diametrically opposed fuel injection nozzles, each fed by an individual pump, inject into the combustion chamber.

As the lower piston which leads the upper piston by 12 to 18 degrees crankshaft rotation, approaches the end of its stroke, it uncovers the exhaust ports which surround the cylinder. The cylinder pressure drops and continued rotation of the crankshafts moves the upper piston to the position where it uncovers the scavenging

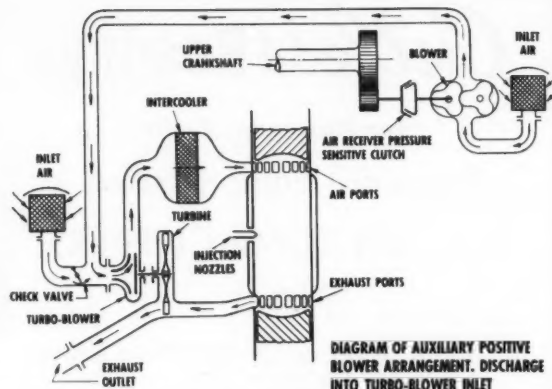


Diagram of the exhaust gas and scavenging air flow in the Fairbanks-Morse turbo-supercharged opposed-piston Diesel.

air ports which also completely surround the cylinder wall. This arrangement provides a straight-through scavenging action and permits the cylinder to be charged with fresh air for the next compression stroke.

In the supercharged engine, the exhaust gases flow through the gas turbine section of the turbocharger. By means of the turbocharger blower, atmospheric air is compressed to the required air receiver pressure. The scavenging air is cooled on its way from the turbocharger blower to the air receiver, making available a more dense air charge for each combustion cycle.

Linen Thread Forms Plastics Division

The Linen Thread Company, Inc., has formed the Arkon Plastics Division at Paterson, N. J. for the manufacture and sale of plastic products. The new division will be under the direction of D. H. Spitzli, who lead the development of Arkon Plastics as the company's director of research.

Arkon is described as a closed cell polyvinyl chloride foamed plastic which is unusually lightweight and buoyant completely impervious to water, unaffected by rot and most chemicals, and highly resistant to splitting and crushing. It can be manufactured in wide ranges of densities, colors and hardnesses. The company's initial success with Arkon was gained with the "Ark" floats used on commercial fishing nets.

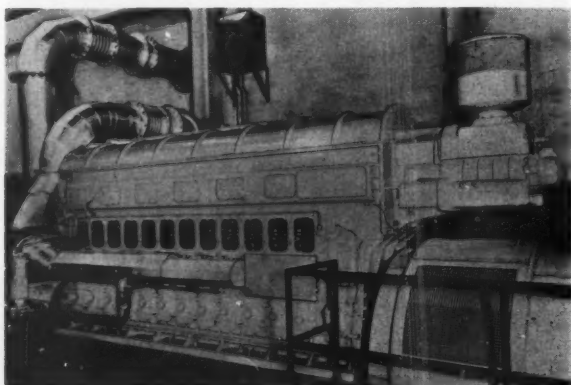
Michigan Wheel Catalog Available

Michigan Wheel Company, Grand Rapids, Michigan, has released its 1958 outboard propeller catalog. The 24 page catalog includes the propellers available in the 2, 3 and 4 blade styles for current and recent motors, a propeller selector and price list, accessory items, and a list of the 8 check points for improved outboard performance.

Anaconda Heat Exchanger Tube Manual

The American Brass Company, Waterbury 20, Conn., has published a revised, 44-page manual, (Publication B-2) to assist in the selection of condenser tube and tube sheet materials. The booklet discusses the application and installation of Anaconda Copper and copperalloy condenser and heat exchanger tubes, as well as for tube sheets, heads, and baffles.

The data provided are especially for the selection of material in the marine industry. The information presented is based on the records of actual installations as well as the company's continuing laboratory tests.



The turbo-supercharged Fairbanks-Morse opposed-piston Diesel has 50 percent more power than the non-supercharged engine, yet can fit on the same foundation. The basic engine weighs only 12.8 pounds per horsepower.

Surrette Offers Battery Bulletin

Surrette Storage Battery Co., Inc., Jefferson Ave., Salem, Mass. has issued a new data bulletin (M2-A) on its line of marine batteries. The bulletin describes in detail the construction of batteries—using the Surrette H-H-G as an example—how they work, and the special features offered by Surrette. Complete positive plate and separator data and other specifications concerning all type classifications in the Surrette line are given. Surrette offers 7 battery models from the 120-volt starting and lighting batteries for large craft to the 6-volt type for small craft and outboards.

Ritchie Compass For Open Boats

The Explorer, a new compass made by the E. S. Ritchie & Sons, Inc., Pembroke, Mass. is designed for small open boats. The waterproof plastic case has a sighting slot for taking bearings easily and a light shield to prevent glare and reflection. The three inch dial is treated to prevent discoloring and there is a bellows type expansion chamber.

In the base which is screwed to the deck, there is an indirect lighting fixture with a standard bulb that is easily replaced. The main body of the compass may be removed from the boat without disconnecting the light wires



"Explorer", new Ritchie compass for small open craft, is easily removed from the boat when not in use.

Amercoat Plastic Pipe Has Strength Of Steel and Resists Corrosion

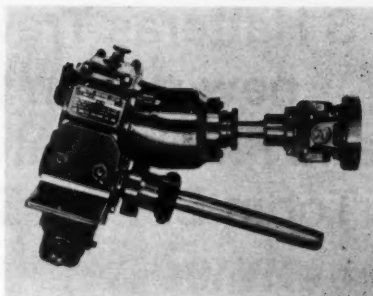
Amercoat Corporation, South Gate, Cal., is now manufacturing a corrosion-resistant reinforced plastic pipe, with the strength of steel but weighing only one eighth as much. The pipe is made in 2 to 12 inch diameters to meet the needs of the marine industry, by a patented process employing interwoven fiberglass filaments, impregnated with epoxy resins and heat cured.

Known as Bondstrand, the new pipe comes in 20-foot lengths with ends plain, bell-and-spigot or flanged. Other lengths, and diameters up to 40 inches, are available on special order. The pipe is non-toxic, non-flammable and collapse-resistant, and may be used for fresh or salt water. The smooth, friction free interior surface resists scale and paraffin deposits.

Two standard series are in production. One has a nominal working pressure of 250 psi (Bondstrand 250) and the other has a rating of 500 psi (Bondstrand 500). Both series have a 10 to 1 safety factor. Greater pressure ratings may be obtained on special order.

The pipe is easily cut and joined without the need of special tools. The basic joint is made by placing the spigot end of one pipe into the bell end of the other. An O ring and tapered sleeve with a special adhesive, seal the joint permanently. Tees, elbows and couplings are made of the same material. Steel flanges and threaded adapters permit interconnecting with other lines and equipment.

The Walter V-Drive is made in several ratios and sizes. It permits installing the engine in the extreme aft of the boat, providing more cargo and cabin space.



Walter V-Drives Stress Compactness

The most important feature of the Walter V-Drives is the gaining of valuable space by locating the engine in the extreme aft of the boat. The engine compartment becomes a compact unit and can be bulkheaded to reduce the engine noise and to increase safety. Helical gears, made from fine alloy steel that is specially finished and heat treated are designed to insure quiet operation. Available in various ratios and sizes, the Walter V-Drives are made by the Walter Machine Co., Inc., 88 Cambridge Ave., Jersey City, N. J., who make reduction gears, transfer drives, Clean-Flo Keel Coolers, and propeller pullers.

Interlux Fiberglass System

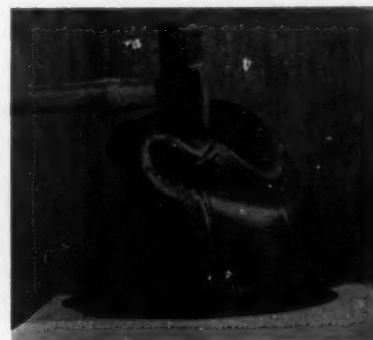
Due to the increasing use of Fiberglass for covering hulls and decks, International Paint Company has added to its line of boat coatings the Interlux Fiberglass System. The new system incorporates the two resin system, introduced by Ev-R-Shield Products, Inc., to provide the best lamination possible. It includes Underkote Resin. Evenflow Resin, hardener, color pigments, solvent, Interlux Paint Peeler and assorted widths of Fiberglass cloth.

Fortex Buckets Nearly Indestructible

Flexible, lightweight buckets and pails made of reinforced molded rubber fabric are being offered by Cauchotex Industries, Inc., 44 Whitehall St., New York, N. Y. The company reports that the new Fortex containers are becoming popular because of their flexibility, which makes them more adaptable than the ordinary rigid container. Boat owners are finding them useful, rugged and easy to handle.

The Fortex buckets and pails derive their strength and flexibility from a patented manufacturing process resulting in a reinforced molded rubber fabric that resists acid, lime plaster, paint etc. Nearly indestructible they are leak-proof, mold-proof and rust-proof.

Made in one piece, with a heavier top rim and rounded corners, they are graduated to nest for easy storage. They are available in standard 10-quart pail, heavy duty 12-quart bucket and 6½ gallon sizes, and come in black, pastel blue, green, red, and multi-color.



Fortex bucket, made of reinforced molded rubber fabric, here subjected to pressure sprang back to natural shape immediately.

3 Hatteras Trawlers of new design ply Gulf and Florida waters with Tobin Bronze Shafting

MOREHEAD CITY, N.C., Shipbuilding Corp. is now building two new series of Hatteras Trawlers—one designed for Northern waters—and the other featuring the twin-boom shrimp rig for Southern waters. Excellent examples of the new Southern design are three delivered last Fall to owners in Florida and Texas. All three are equipped with Tobin Bronze Shafting.



TOBIN BRONZE® Shafting has proved itself through its dependable performance on thousands and thousands of pleasure boats, fishing and other commercial craft. It is this record of dependability that has made it first choice of boatbuilders and boatowners.



TEMPALOY®-917, Nickel-bearing aluminum bronze shafting was developed by The American Brass Company for use requiring extra high strength and lighter weight. Repowering with higher horsepower engines often means replacing original shafting, too. Tempaloy provides the needed extra strength with no increase in shaft diameter—saving costly alteration of bearing, stuffing box and housing assemblies. Features: toughness and high yield strength—high resistance to shock—excellent corrosion resistance—lighter weight—special straightening—close diameter tolerances—individually wrapped and trade-marked—reasonably priced.

Alan McInnis Elected by Design Firm

Alan J. McInnis has been elected president of Eldredge-McInnis, Inc., Naval Architects and Marine Engineers, 131 State St., Boston 9, Mass. Walter J. McInnis continues as treasurer of the firm.

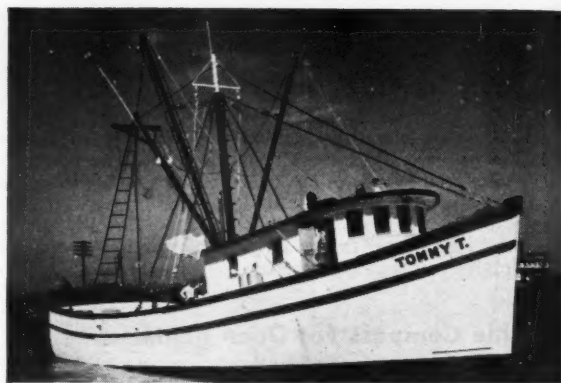
A former officer in the Air Corps, Alan has been a member of the McInnis organization for 12 years. He handles the brokerage department, and also is identified with the marine insurance and engineering activities. Eldredge-McInnis was established in 1926, and has specialized in fishing boat design in both the United States and Canada.

Spray Products Has Rust Solvent

Spray Products Corp., Camden, N. J. has developed a new formula for a fast acting penetrant and rust solvent. Spray Nuts Off is designed to loosen everything rusted or corroded. Perfected after three years of experimenting, Nuts Off is a combination of oils, penetrants, and rust solvents, chemically formulated to provide fast solvent and penetrating properties. It has no offensive odor and is made to use on the finest mechanisms. Packaged in a 12 ounce aerosol container to eliminate spillage and evaporation, it is also marketed in pint and gallon containers.

New Container for Flexco Fasteners

A new bulk packaging for Flexco belt fasteners, called "25-Pak", has been announced by Flexible Steel Lacing Company, 4607 Lexington Street, Chicago 44, Ill. The new package is available in the four Flexco sizes. It provides an easy-to-handle economy bulk package that eliminates the need for several 10-set boxes. Every "25 Pak" contains enough complete sets of fasteners to join common belt widths. As an added feature, four "25-Pak" boxes of one size fastener are shipped in a re-usable carton.



The "Tommy T," 63-foot Hatteras twin-rig shrimp trawler delivered to Key West, Fla. Two similar boats, "Billy H" and "Tommy H," were delivered to Brownsville, Texas. All have 3" Tobin Bronze Shafts.

Both Anaconda propeller shafts are available through leading marine supply distributors. For detailed information, see your distributor or write: The American Brass Company, Ansonia Division, Ansonia, Conn. 68111

ANACONDA®

PROPELLER SHAFTING

MARINE BRASS AND BRONZE

EVERDUR® FOR FASTENINGS AND FITTINGS

RCA Radiomarine Dealers Appointed

Appointment of Industrial Electronic Service, 4701 Andover Drive, Corpus Christi, Tex., as authorized dealer for RCA Radiomarine equipment for small commercial vessels was announced recently by Radiomarine Sales Communications Products Department, Radio Corporation of America. The Corpus Christi firm will handle the various lines of electronic equipment for small craft such as radio telephones, direction finders, radars, antennas, fishfinders, and depth sounders.

Other RCA Radiomarine dealer appointments include Liss Equipment Co., 90 S. W. 27th Road, Miami, Fla.; C. B. Moore & Son Marine & Industrial Electronics, 502 Seaway Drive, Fort Pierce, Fla.; Moright Electronics Inc., Santa Barbara, Cal., and Southern California Electronics, Inc., San Pedro, Cal.

New California General Motors Distributor

General Motors Diesel Engine Division has named Williams & Lane, Inc., 1077 Eastshore Highway, Berkeley, Cal. the new distributor of General Motors 2-cycle Diesel engines in the San Francisco Bay and Northern California area. The company is a new corporation formed to handle the Detroit Division's line of marine and industrial Diesels. Heading the company are James R. Williams, president; N. L. Lane, vice president; and W. M. Glade, treasurer.

Scheldt To Manage Ansul Marine Sales

Ansul Chemical Company, Marinette, Wis. has appointed Robert A. Scheldt manager of the newly organized Marine Sales department. The new department will concentrate exclusively on the marketing of dry chemical fire fighting equipment. The Ansul marine extinguishers will be available through dealers, distributors, and boat manufacturers. Three types of extinguishers for marine use have been designed with details and specifications to be announced.

Agath
Arling
Atlant
Baby
Bay (C
Blue V
Bonav
Bonni
Bonni
Brigh
Buzz
Camb
Carac
Carm
Charl
Colum
Come
Dolph
Doris
Eagle
Elizab
Estrel
Ethel
Flying
Four
Gerald
Hazel
Holy
Jane
J. B.
J.B.N
Jeann
Josep
Josep
Lady
Leon
Maga
Manu
Mary
Mary
M. C.
Michi
Minn
Laur
Bette
Carl
Carol
Carol
Conn
Fairv
Irene
Andr
Aust
Carol
Clipp
Cush
Edith
Evel
Barb
Beat
David
Arno
Bern
Carol
Cur
Eug
Fam
Gert
Lynn

BOAT CATCHES

For Month of February

Hailing fares. Figure after name indicates number of trips.

BOSTON (Mass.)

Agatha (3)	121,800	Mother Francis (3)	104,400
Agatha & Patricia (3)	121,200	Nautilus (1)	46,000
Arlington (3)	334,100	New Star (3)	260,400
Atlantic (2)	121,400	Notre Dame (2)	65,600
Baby Rose (3)	132,800	Ocean Wave (3)	66,300
Bay (2)	101,800	Ohio (2)	208,600
Blue Waters (2)	64,000	Olympia (1)	16,200
Bonaventure (2)	92,500	Olympia LaRosa (4)	99,800
Bonnie (3)	379,600	Pam Ann (2)	138,800
Bonnie Billow (2)	142,600	Patty Jean (2)	131,100
Brighton (3)	224,900	Phantom (2)	178,600
Buzz & Billy (3)	67,300	Phillip & Grace (1)	65,200
Cambridge (2)	196,300	Pilgrim (3)	164,600
Caracara (3)	105,300	Plymouth (1)	86,200
Carmen & Vince (2)	93,000	Princess (1)	4,300
Charlotte M. (2)	93,100	Puritan (1)	46,800
Columbia (2)	102,100	Racer (2)	197,700
Comet (2)	177,400	Raymonde (2)	85,800
Dolphin (3)	136,800	Red Jacket (2)	256,700
Doris F. Amero (1)	28,400	Rosa B. (2)	159,800
Eagle (2)	132,800	Rosie (3)	16,000
Elizabeth B. (1)	42,700	Rush (2)	164,600
Estrela (3)	174,900	St. Angelo (3)	42,300
Ethelena (2)	63,000	St. Joseph (3)	113,100
Flying Cloud (3)	439,200	St. Marco (3)	111,300
Four (2)	160,300	St. Nicholas (3)	143,700
Geraldine & Phyllis (3)	100,300	St. Rosalie (1)	42,900
Hazel B. (2)	90,000	St. Victoria (1)	63,700
Holy Family (2)	126,700	San Antonio II (1)	15,200
Jane B. (2)	136,600	Santa Maria (3)	60,400
J. B. Junior (2)	208,600	Santa Rita II (4)	54,500
J.B.N. (3)	101,400	Sebastiana C. (1)	16,900
Jeanne D'Arc (2)	36,900	Sunlight (2)	86,600
Joseph & Lucia (3)	187,700	Swallow (2)	219,700
Josephine P. II (3)	42,200	Terra Nova (2)	190,500
Lady of the Rosary (1)	17,500	Texas (2)	111,000
Leonard & Nancy (1)	36,200	Thomas D. (3)	75,800
Magellan (2)	50,800	Thomas Whalen (2)	96,000
Manuel F. Roderick (3)	160,800	Villanova (3)	75,200
Mary & Joan (3)	191,700	Vincie N. (1)	27,200
Mary Rose (2)	98,900	Weymouth (2)	110,000
M. C. Ballard (2)	124,400	Wild Duck (2)	125,700
Michigan (2)	180,800	Wm. J. O'Brien (2)	210,400
Minnie (2)	221,400	Winchester (2)	220,800
		Wisconsin (2)	240,900

Scallop Landings (Lbs.)

Laura A. (1) 10,500

STONINGTON (Conn.)

Bette Ann (8)	5,400	Jane Dore (6)	7,800
Carl J. (6)	14,400	Lt. Thomas Minor (5)	6,800
Carol & Dennis (1)	200	Marise (9)	5,800
Carolyn & Gary (8)	9,500	Old Mystic (6)	14,800
Connie M. (9)	9,200	Our Gang (4)	17,400
Fairweather (4)	18,400	William B. (2)	6,000
Irene & Walter (3)	4,800		

NEW YORK

Andrea G. (3)	90,000	Felicia (1)	35,000
Austin W. (3)	92,500	Golden Eagle (2)	76,500
Carol-Jack (3)	135,500	Joseph S. Mattos (3)	105,200
Clipper (2)	80,000	Lady of Good Voyage (3)	114,500
Cushmaner (3)	128,000	Manuel P. Domingos (2)	84,000
Edith L. Boudreau (3)	126,600	Tina B. (3)	116,000
Evelina M. Goulart (2)	81,000		

Scallop Landings (Lbs.)

Barbara & Gail (2)	5,700	Enterprise (1)	10,900
Beatrice & Ida (1)	4,500	Norseman (3)	16,500
David A. (1)	8,600		

WOODS HOLE (Mass.)

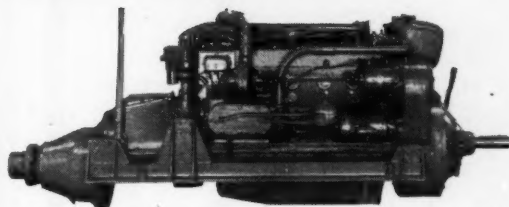
Arnold (1)	6,900	Madeline (3)	5,300
Bernice (1)	2,500	Margie L. (2)	10,100
Carole Ann (3)	28,500	Metacomet (2)	23,900
Curlew (4)	10,100	Papoose (1)	6,800
Eugene H. (1)	2,800	Roann (4)	29,800
Famiglia (4)	14,800	Southern Cross (2)	12,200
Gertrude D. (4)	25,500	Three Bells (2)	8,700
Lynn (4)	23,500		

MARCH, 1958 - NATIONAL FISHERMAN

We Build this Powerful Engine for

ROUGH TOUGH

Service



In this picture you're looking at a big 427 cu. in. Graymarine engine rated 185 hp. It's equipped with 2.5:1 reduction gear, power, take-off, ignition shielding and fresh water cooling system.

In spite of the big piston displacement, which is the clue to its easy loading, observe the compact arrangement. The same design is repeated in Gray's smaller 6 cylinder and 4 cylinder engines.

GRAYMARINE WORKBOAT ENGINES

LAST LONGER—HERE'S WHY—

① We use a heavy-duty type of cylinder block, similar to those used in tractors and trucks.

② This type of cylinder block has thicker walls, less subject to distortion than lightweight types where sturdiness and long life are sacrificed to savings in weight.

③ The design of the cylinder block includes provision for water all around every cylinder bore. All engines do not have this feature, mighty important in a workboat engine.

④ These are workhorse engines. Due to the long stroke design they have more torque at lower speeds than the short stroke engines which do best in lighter faster boats.

⑤ These engines also have excellent fuel economy, conservative HP rating, and low idling ability—in contrast to many high-output engines where these qualities are subordinated to top HP at top RPM.

If you want more information on these heavy-duty engines, write and tell us about your boat. We'll send complete literature on Graymarine workboat engines—gasoline and Diesel—and without obligation, of course.

GRAYMARINE

GRAY MARINE MOTOR COMPANY
DETROIT 7, MICHIGAN

Have you ever observed how many experienced fishermen continue to "stick loyally to Mustad Key Brand Fish Hooks"? There's a reason why. A trial will very definitely convince you. Make it at your earliest convenience—and learn something to your advantage.

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Key Brand FISH HOOKS

BLUDWORTH MARINE DIRECTION FINDER

DF 1030A Featuring 3-band coverage — Marine Beacon, Broadcast and Marine Telephone. Exclusive "MULDIKATOR". Maximum performance with greatest utility on all bands. Outside loop unit and receiver separate for easy installation. \$535

COMMUNICATOR RADIO TELEPHONE

BRT 1025 Ship-to-Shore telephone, 4 channels plus tunable broadcast receiver. Daytime range 35-50 miles, night 75-125 miles. Built-in 6 or 12-volt power supply. \$265 including all crystals. Higher power models up to 11 channels available. All prices F.O.B. New York

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RADAR • DEPTHOMETERS • "POWER DIVER"

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East Boston: Cladel Electronics Co., Inc.
Fairhaven: Whitehead Marine Radio Co.
Pawtucket: Roswell Electronic Sales & Service Co.
New Jersey: 1500 Main Avenue, Clifton

YOU-TOO!

Can Increase "Net" Profits
FISH "WESTERN" TRAWLS

MARLON—THE PERFECTED NETTING

Western Trawl & Supply Co.

FREESPORT, TEXAS

NEW BEDFORD (Mass.)

Adventurer (3)	31,700	Lorine III (3)	43,000
Agda W. (3)	32,800	Lubenray (1)	16,700
Anastasia E. (2)	37,000		
Annie M. Jackson (3)	43,500	Major J. Casey (2)	28,000
Barbara M. (3)	28,500	Malvina B. (1)	10,400
Cap'n Bill (1)	23,800	Marie & Katherine (3)	47,000
Cap'n Bill II (2)	56,600	Mary E. D'Eon (1)	22,500
Carl Henry (1)	19,000	Mary Tapper (3)	39,000
Charles E. Beckman (2)	13,200	Midway (3)	52,000
Christina J. (3)	52,700	Miriam A. (1)	9,700
Christine & Dan (2)	27,800	Molly & Jane (2)	32,700
Comber (4)	48,100	Nautilus (2)	72,500
Connie F. (2)	42,500	New England (2)	16,800
		North Sea (2)	32,000
Debbie & Jo-Ann (2)	25,200	Pauline H. (2)	110,200
Eugene H. (3)	40,800	Phillip & Grace (2)	51,800
Eunice-Lillian (4)	39,500	Phyllis J. (3)	32,800
Falcon (4)	58,100	Richard Lance (1)	5,000
Famiglia (1)	18,000	Rita B. (1)	4,700
Friendship (3)	38,200	Roberta Anne (3)	61,200
Gannet (2)	46,500	Rosemarie V. (2)	23,000
Growler (4)	55,600	Rush (4)	60,100
		R. W. Griffin, Jr. (4)	98,000
Harmony (2)	43,000	Shannon (3)	33,500
Hope II (3)	26,400	Solveig J. (2)	37,500
Invader (3)	82,000	Stanley B. Butler (2)	45,000
Ivanhoe (4)	29,600	Sunbeam (2)	21,000
Jacintha (1)	19,300	Theresa & Jean (2)	62,500
Janet & Jean (4)	55,000	Venture I (2)	29,700
Julia DaCruz (2)	25,000	Victor Johnson (1)	12,000
		Viking (3)	45,900
Katie D. (2)	87,400	Whaler (3)	67,700
Kelbarsam (2)	20,800		

New Bedford Scallop Landings (Lbs.)

Abram H. (1)	6,000	Josephine & Mary (2)	19,500
Adele K. (2)	16,200		
Aloha (1)	10,700	Kingfisher (1)	6,200
Alpar (2)	11,000		
Amelia (1)	2,500	Lauren Fay (1)	11,000
Babe Sears (1)	8,000	Linus S. Eldridge (1)	10,000
Baltic (2)	15,700	Louis A. Thebaud (1)	5,500
B. Estelle Burke (2)	17,200	Louise (1)	11,000
Bobby & Harvey (3)	22,000	Malene & Marie (2)	18,000
Brant (2)	7,000	Marmax (1)	6,000
Bright Star (2)	20,000	Mary J. Hayes (1)	6,500
		Mary J. Landry (2)	10,700
Camden (1)	8,100	Moonlight (1)	11,000
Carol & Estelle (3)	15,700		
Catherine & Mary (1)	6,000	Nancy Jane (1)	4,500
Catherine C. (2)	13,500	New Bedford (2)	19,700
Charles S. Ashley (2)	21,600	Newfoundland (1)	7,000
Clipper (2)	17,200	Noreen (1)	8,100
Dartmouth (2)	14,000	Pearl Harbor (2)	11,500
Edgartown (3)	20,200	Porpoise (1)	6,000
Eleanor & Elsie (2)	15,000	Ruth Lea (1)	4,500
Empress (2)	17,200		
Fairhaven (1)	10,500	Sharon Louise (1)	6,000
Flamingo (1)	10,200	Sippican (2)	20,000
Fleetwing (1)	9,000	Smilyn (2)	17,000
Florence B. (2)	14,800	Snoopy (1)	11,000
		Stephen R. (2)	18,500
Geraldine (2)	22,000	Ursula M. Norton (1)	11,000
Hilda Garston (1)	6,500	Vivian Fay (2)	14,000
Jerry & Jimmy (2)	22,000	Wamsutta (2)	15,800
John G. Murley (1)	8,500	Whaling City (2)	10,000

PORTLAND (Me.)

Alice M. Doughty II (6)	133,800	Medan (1)	225,000
Andarie (2)	150,400	Nancy B. (7)	213,500
Ariel (1)	200	Ocean Life (1)	280,000
Bois Bubert (2)	7,500	Quincy (2)	180,000
Carlene (2)	1,900	St. George (1)	180,000
Challenger (2)	9,700	St. Joseph II (4)	12,600
Dorchester (4)	106,000	Theresa R. (4)	202,000
Dorothy & Ethel II (4)	17,000	Vagabond (3)	91,000
Ellnor & Jean (4)	36,000	Vandal (5)	197,500
Gulf Stream (5)	202,000	Wawenock (2)	425,000
Lawrence Scola (6)	49,500	Winthrop (4)	161,000
Mary & Jennie (3)	22,500		

ROCKLAND (Me.)

Araho (3)	128,000	Mabel Susan (4)	29,000
Ellin B. (3)	93,000	Ocean (2)	440,000
Flo (3)	134,000	Squall (2)	385,000
Flow (1)	24,000	Storm (1)	220,000
Helen Mae II (3)	73,000	Surf (1)	225,000
John J. Nagle (3)	227,000	Tide (1)	180,000
Little Growler (3)	84,000	Wave (2)	495,000
Louise G. (1)	4,000		

Scallop Landings (Lbs.)

Pocahontas (1)	10,000
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Anthony & Josephine (2)	3,000	Mary Ann (6)	91,000
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Bonaventure (1)	20,000	Nancy & Maria (6)	10,500
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Charlotte M. (1)	4,000	Pioneer (5)	9,500
Cigar Joe (5)	109,000	Prosperity (10)	25,500
Curlew (2)	320,000	Puritan (1)	48,000
Dawn (3)	3,000	Raymonde (1)	65,000
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Eagle (1)	20,000	Rita B. (1)	15,000
Eddie & Lulu M. (5)	12,000	Rose & Lucy (4)	60,000
Emily Brown (2)	103,000	Rosemarie (4)	28,000
Eva II (3)	3,500	Rosie & Gracie (5)	51,500
Falcon (7)	14,500	Ruth & Helen (2)	2,000
Flo (1)	226,000	St. Anna Maria (9)	35,500
Flow (1)	280,000	St. Cabrini (6)	66,500
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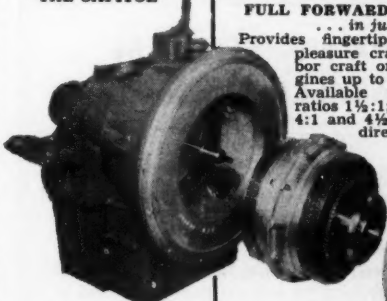
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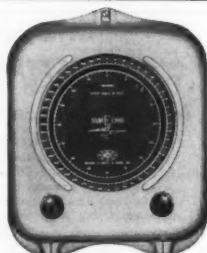
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Bears Bluff Research

(Continued from page 9)

particularly profitable except in late Spring, Summer and early Fall. State law prohibits commercial catching of crabs less than five inches across the long dimension. Smaller specimens are easily discarded from trotlines and pots. Trawl catches must be sorted and the illegal sizes thrown back into the water.

Although the postwar years have brought further quickening of interest in shrimp, crab and oysters, there is nothing like full utilization of the resources, especially in the fin fish department.

Gaps in Research

The lack of scientific work in South Carolina waters is reflected by gaps in statistical knowledge of habits and movements of croaker, spot, the trouts, whittings, etc., near shore; or the big fellows in the deeps. Bears Bluff is about to change this. Although it was founded in 1946 primarily as an oyster research station by the benefaction of the late H. Jermain Slocum, Bears Bluff has expanded its activities to embrace the field of marine fisheries important to South Carolina.

A two-year survey of shrimp trawling has yielded data still being digested and interpreted. A newly-acquired and larger vessel permits pursuit of the elusive brown shrimp to his ocean lair, as well as probing for Winter whereabouts of the white shrimp and the brown-spotted shrimp. On these Fall and Winter cruises, a lookout is kept for passage of pelagic fishes, while a slender staff ashore studies the fatality fecund oyster; the habits of the crabs and the growth and mortality of marine life in the station's marsh creek impoundments.

As a logical consequence of the continuing shrimp investigation, the 65' Bears Bluff research vessel T-19 spent considerable time cruising the continental shelf off South Carolina during the 1955-56 fiscal year. By arrangement with the United States Fish and Wildlife Service, the T-19 works out to the 50-fathom curve, some distance into the Gulf Stream. Craft of the Fish and Wildlife Service are exploring at greater depths beyond. The Government boats also are exploring the shallower reaches of the coasts of adjoining States.

The T-19 has yet to discover concentrations of brown or white shrimp any distance offshore from the commercial fishing grounds. The latter seldom extend deeper than five to ten fathoms. The deep-sea bottom trawls have found promising quantities of rock shrimp, juvenile and mature, scattered from about 10 fathoms out to 40 fathoms. The experimental hauls so far have been mostly with nets of 20-foot openings. Commercial abundances have yet to be proved by the 40- to 90-foot trawls.

Evidence is lacking that the red shrimp occurs in the waters traversed by the T-19. This species, which flourishes in deeper waters of the Gulf of Mexico, also has been caught in satisfactory quantities off Florida by U. S. Fish and Wildlife Service boats trawling in 175 to 210 fathoms.

Fishery Laws Need to be Modernized

G. Robert Lunz, Bears Bluff director, believes that under-utilization of the State's fishery resources could be even more wasteful than overfishing. The striking of a balance between the biological factors and the economics of fishing pressure, he thinks, calls for uninterrupted research of local conditions and enforcement of enlightened laws.

South Carolina's marine fishery laws have developed piecemeal, usually to meet a problem of the moment. Once on the books they usually have stayed. Often their writing was based on notions of conservation not founded in scientific knowledge.

The interests of fishermen and enforcement of these laws have clashed often. The interests of commercial fishermen and sports anglers also clash frequently. There is a good chance that the fishery laws will be brought up to date with modern knowledge, and when they are, Bears Bluff will have a lot to do with it.

Radio Rules Being Enforced

THE Federal Communications Commission has begun a strict enforcement of the new radiotelephone regulations as applied to commercial fishing boats. Since March 1, 1957, the new Part III to Title III of the Communications Act has been in effect. It requires United States vessels transporting more than six passengers for hire, when navigated on the open sea or on any tidewater within the jurisdiction of the United States adjacent or contiguous to the open sea, to be equipped with radiotelephone installations meeting requirements of the Federal Communications Commission. The new law does not apply to vessels compulsorily equipped with radio installations for the purpose of complying with Title III, Part II.

Vessels compulsorily equipped with a radiotelephone in accordance with the Communications Act must carry an operator holding a third class radiotelephone license. A valid restricted operators license, a valid FCC ship radiotelephone license, and a copy of Section 8—the "Rules Governing Stations on Shipboard in the Maritime Services" must be posted in a conspicuous location. Unlicensed persons may speak over the radio if a licensed operator makes the initial call and completes the communication.

Each vessel subject to Part III, Title III shall have an inspection of equipment every 24 months. Formal "Application for Periodical Inspection" must be made on FCC Form 812. The application shall be filed with the radio district office nearest the desired port of inspection.

All ship radiotelephone stations must maintain an efficient watch on 2182 kc., the calling and distress frequency. Transmissions on that channel must not exceed three minutes. The only communications allowed are brief initial calls to establish communications on working channels. Distress communications have absolute priority. Important safety calls or urgent weather information have priority over all calls except distress calls. When a vessel desires to listen on another frequency, it must also meet the listen requirements on 2182 kc. An additional receiver is necessary to listen to the other channel.

An AM radiotelephone transmitter capable of 10 watts output is acceptable if it was installed prior to March 1, 1957. If installed after that date the transmitter must be capable of an output of 25 watts. After June 1, 1963 all AM radiotelephone transmitters must be capable of 25 watts output regardless of the installation date. The AM radiotelephone is required to have effective operation on 2182 kc. and one ship-to-shore working frequency enabling communication with a public coast station serving the region in which the ship is operated.

An FM installation is accepted under special circumstances. It is required to have 20 watts output and be capable of effective operation on 156.3 and 156.7 mc. and on the ship-to-shore working frequencies, 157.3 or 157.4 mc.

A radio log is required in which the operator must sign his name, enter a summary of every communication with a coast station or another boat, and the time of beginning and ending each watch on 2182 kc. Distress, urgency, and safety communications should be logged as completely as possible. A record of installation, service or maintenance operations must be entered by the licensed operator including his signature, address, class and expiration of his license. Each page must have the name of the vessel, call sign, and page number, and must be signed by the operator.

The Federal Communications Commission drive to enforce Title III Part III is running smoothly. The Commission reports receiving fine cooperation from the small boat associations. However, the Washington office has issued 58 forfeiture actions amounting to \$29,300. The largest single case involving forfeitures totaled \$5,800.

The current issue of Part 8: "Stations on Shipboard in the Maritime Services", may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D.C., for 35 cents.

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Caterpillar Tractor Co., Peoria, Ill.

Cummins Engine Co., Columbus, Ind.

Daimler-Benz of North America, Inc., 126-56 Northern Blvd., Flushing, L.I., N. Y.

Detroit Diesel Engine Div., General Motors Corp., Series 51, 71 and 110 Marine Diesels, 13400 W. Outer Drive, Detroit 28, Mich.

Enterprise Engine & Machinery Co., 18th and Florida Sts., San Francisco 10, Calif.

Fairbanks, Morse & Co., Chicago, Ill.

Ford Marine Engines, Osco Motors Corp., 3627 N. Lawrence St., Philadelphia 40-AF, Pa.

Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.

P&H Diesel Engine Division Harnischfeger Corp., 500 S. Main Street, Crystal Lake, Illinois.

Hercules Motors Corp., 101 Eleventh St., S.E., Canton, Ohio

Lister-Blackstone, Inc., 42-32 21st St., Long Island City 1, N. Y.

H. O. Penn Machinery Co., Inc., East River and 140th St., New York, N. Y.

Perkins Machinery Co. Inc., Exit 53 Route 128, Needham Hts., Mass.

Red Wing Marine Corp., Red Wing, Minn.

Waukesha Motor Co., Waukesha, Wisc.

White Diesel Engine Division, White Motor Co., Springfield, Ohio.

Wolverine Marine Dept., The Coulter & McKenzie Machine Co., 35 Union Ave., Bridgeport 3, Conn.

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Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.

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Red Wing Marine Corp., Red Wing, Minn.

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Robeson Preservo Co., 214 Merchant St., Port Huron, Mich.

PROPELLERS

Columbian Bronze Corp., Freeport, N. Y.

Federal Propellers, Grand Rapids, Mich.

Ferguson Propeller and Reconditioning Co., 1132 Clinton St., Hoboken, N. J.

Hyde Windlass Co., Bath, Maine.

Michigan Wheel Co., Grand Rapids, Mich.

PROPELLER RECONDITIONING

Columbian Bronze Corp., Freeport, N. Y.

Ferguson Propeller and Reconditioning Co., 1132 Clinton St., Hoboken, N. J.

Haskell & Hall, Inc., 36 Webb St., Salem, Mass.

PROPELLER REPAIRS

Columbian Bronze Corp., Freeport, N. Y.

Ferguson Propeller and Reconditioning Co., 1132 Clinton St., Hoboken, N. J.

Haskell & Hall, Inc., 36 Webb St., Salem, Mass.

PROPELLER SHAFTS

The American Brass Co., Waterbury 20, Conn.

The International Nickel Co., Inc., 67 Wall St., New York 5, N. Y.

PUMPS

Jabco Pump Co., 2031 N. Lincoln St., Burbank, Calif.

Sudbury Laboratory, South Sudbury, Mass.

RADAR

Bendix Aviation Corp., Pacific Div., 475 Fifth Ave., New York 17, N. Y.

Decca Radar Inc., 539 West 25th St., New York 1, N. Y.

Edo Corporation, College Point, L. I. N. Y.

Lavoie Laboratories, Inc., Morganville 16, N. J.

Radiomarine Products, a Division of RCA, 75 Varick St., New York 13, N. Y.

RADIO TELEPHONES

Applied Electronics Co., Inc., 1246 Folsom St., San Francisco, Calif.

Bludworth Marine, 92 Gold St., New York 38, N. Y.

Hudson American Div., 29-01 Borden Ave., Long Island City, N. Y.

Kaar Engineering Corp., Palo Alto, Calif.

Radiomarine Products, a Division of RCA, 75 Varick St., New York 13, N. Y.

RANGES—Galley

"Shipmate"—Shipmate Stove Division, Souderton, Pa.

Harry C. Weiskittel Co., Inc., 4901 Pulaski Highway, Baltimore 24, Md.

REDUCTION GEARS

Auto Engine Works, Inc., 333 (A) North Hamline Ave., St. Paul 4, Minn.

Snow-Nabstedt Gear Corp., Welton St., Hamden, Conn.

Twin Disc Clutch Co., 1341 Racine St., Racine, Wis.

The Walter Machine Co., Inc., 84 Cambridge Ave., Jersey City 7, N. J.

Western Gear Corp., P. O. Box 182, Lynwood, Calif.

RUST PREVENTIVES

Sudbury Laboratory, South Sudbury, Mass.

SEARCHLIGHTS

The Carlisle & Finch Co., 4562 W. Mitchell Ave., Cincinnati 32, Ohio

SHIPBUILDERS

Blount Marine Corp., Warren, Rhode Island.

Diesel Engine Sales Inc., St. Augustine, Fla.

Diesel Engine Sales of Ft. Myers, Fla., Inc., 2909 Frierson, Ft. Myers, Fla.

Harvey F. Gamage, So. Bristol, Maine.

General Marine Boatyard, Inc., Fort Myers Beach, Fla.

Gladding-Hearn Shipbuilding Corp., 1 Riverside Ave., Somerset, Mass.

Morehead City Shipbuilding Corp., Morehead City, N. C.

SILENCERS

The Maxim Silencer Co., 126 Homestead Ave., Hartford, Conn.

STARTING FLUID

Spray Products Corp., P. O. Box 584, Camden 1, N. J.

STEERING GEAR

Metal Marine Pilot, 342 Golden Gate Ave., Tacoma, Wash.

STERN BEARINGS

Byron Jackson Tools, Inc. 1900 E. 65th St., Los Angeles 1, Calif.

"Goodrich Cutless": Lucian Q. Moffitt, Inc., Akron 8, Ohio.

TWINE

Brownell & Co., Inc., Moodus, Conn.

Columbian Rope Co., Auburn, N. Y.

V-BELTS

Flexible Steel Lacing Co., 4683 Lexington St., Chicago 44, Ill.

VOLTAGE REGULATORS

Safety Industries, Inc., Box 904, New Haven 4, Conn.

WINCHES

Hancock Marine, 1567 No. Main St., Fall River, Mass.

Hathaway Machinery Co., Inc., New Bedford, Mass.

Stroudsburg Engine Works, 62 North 3rd St., Stroudsburg, Penn.

WIRE ROPE

American Steel & Wire Division, United States Steel, Rockefeller Bldg., 614 Superior Ave., Cleveland 13, Ohio.

John A. Roebling's Sons Co., Trenton 2, N. J.

Wickwire Spencer Steel Division of The Colorado Fuel & Iron Corp., Palmer, Mass.

FOREIGN BAILINGS

A SMALL MODERN TRAWLER designed for Baltic use, built by a Polish shipyard, recently visited a number of fishing ports on the east coast of Sweden to explore sales possibilities.

The vessel is 57.2' long, 16.4' wide and has a draft of 8'. It is made entirely of steel with a reinforced stem constructed for operation in ice. There is a large hold with space for iceboxes and refrigerators. Large tanks for fuel and water make trips up to 14 days possible. The wheel house is located aft over the engine room and the navigator's cabin in the stern is connected with the wheel house.

FISH FLOUR IS BEING EATEN by 150 families in Thailand. A daily ration of 15 grams of fishmeal supplements their deficient supply of protein, which is usually available only in the form of fermented fish.

The experiment is being undertaken by the Thailand-UNESCO Fundamental Education project. The fish flour is made from platy and slipmouth which previously had little market. The factory can make about five tons of flour a day from 28 tons of fish.

The flour was originally considered as a poultry feed only. Nutritionists, realizing that it is a good supply for calcium as well as protein, inspected the manufacturing process and found it suitable for human consumption.

NYLON NETS in Pakistan are said to be lasting six times as long as nets made from domestic fibres. This report was made to U.S. Ambassador Langley by a delegation of fishermen who presented him with a model of a Pakistan fishing boat in appreciation of half a million dollars worth of nylon twine provided under the U. S. foreign aid program.

TUNA INDUSTRY IN HAITI is a possibility, a Food and Agriculture Organization expert suggests after 18-month study of the fisheries resources of that country.

The Government agreed with his proposal to charter a Cuban tuna vessel to carry out experimental fishing and train Haitian fishermen in tuna fishing techniques. They found tuna in commercial quantities off both the north and south coasts.

In the north, the climate is suitable for drying the fish, while in the south, it would be necessary to build a cannery for processing the fish at the height of the season. Suitable bait fish were found in the inshore waters.

Index to Advertisers

Air Cruisers Div., Garrett Corp.	31
The American Brass Co.	34
W. A. Augur, Inc.	38
Auto Engine Works, Inc.	37
Bludworth Marine	36
The Boston Metals Co.	39, 42
Brownell & Co., Inc.	8
The Carlisle & Finch Co.	38
Marine Engine Division, Chrysler Corp.	43
Columbian Bronze Corp.	6
Columbian Rope Co.	1
Diesel Engine Sales, Inc.	44
Evinrude Motors	26
Fairbanks, Morse & Co.	4 & 5
General Marine Boatyard, Inc.	42
Gladding-Hearn Shipbuilding Corp.	42
Gray Marine Motor Co.	35
The Harris Co.	42
Haskell & Hall, Inc.	38
International Paint Co., Inc.	30
The Linen Thread Co., Inc., Arc Plastic Floats	28
Wm. M. McClain, Inc.	39
Michigan Wheel Co.	37
Lucian Q. Moffitt, Inc.	31
Morehead City Shipbuilding Corp.	25
O. Mustad & Son	36
Northill Anchors	31
Perkins Machinery Co., Inc.	29
Dwight S. Simpson & Associates	39
Snow-Nabstedt Gear Corp.	27
Sponge Products Div., B. F. Goodrich Co.	2
Spray Products Corp.	37
A. M. Starr Net Co.	25
Westerbeke Fishing Gear Co.	42
Western Trawl & Supply Co.	36
Wilfrid O. White & Sons, Inc.	38

BOAT & GEAR MART

Classified Advertising Rates: \$1.00 per line, \$5.00 minimum charge. Count 9 words to a line. Closing date, 25th. National Fisherman, Gloucester, N. H.

FOR SALE

Cruisers, draggers, auxiliaries—all types and sizes. If you are in the market for anything in that line, please write us—no inquiry too small to merit attention. KNOX MARINE EXCHANGE, INC., CAMDEN, MAINE.

BOATS FOR SALE

Fishing types, such as purse seiners, draggers, and trollers; commercial types, such as tugs, barges, tankers, freight, passenger and miscellaneous. Donald L. Woodward, Licensed Broker, Box 45-A, Moss Landing, Calif.

SHRIMP TRAWLER FOR SALE

Shrimp trawler *Rise and Shine*. Fully equipped, A-1 condition, 68'. Brine system 20,000 lbs. Telephone, direction finder, recorder, pilot, Stroudsburg, double rig. All rigging and tanks galvanized. Information, Phone 446-M, E. H. Easley, Box 444, Aransas Pass, Texas.

FOR SALE

Oyster dredge boat *Catherine M. Wedmore*, length 56'3" by 18'2", draft 6'. Diesel powered, Hitchcock Hoisters. Boat and machinery in excellent condition. Charles K. Wedmore Sons, 34 South Water St., New Haven 11, Conn.

BOATS AND SHIPS FOR SALE AND CHARTER

Purse seiners, draggers, trollers, freezer vessels, tugs, barges, water taxis, cargo ships, tankers, passenger ships, dredges, yachts, surplus type vessels and used marine equipment. World-wide contacts. JERRY'S BOAT SALES, 310 West 7th St., San Pedro, Calif.

GOVERNMENT SURPLUS EQUIPMENT LIST

Buy surplus direct from Government at tremendous savings. Boats, motors, gear, machinery, power tools, truck, jeep, hundreds others. List \$1.00. Surplus Bulletin, Box 169NAE, East Hartford 8, Conn.

REFRIGERATION EQUIPMENT FOR SALE

Complete Zero Ammonia Plant with two compressors, two Carrier blowers, evaporative condensor, receiver, motors & controls. Plant, now in operation, available April 1. Can be seen at Brockton Public Market, Brockton, Mass.

CHARTER BOAT "TOMMY" FOR SALE

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SOMERSET, MASS.

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SCALLOP DRAGGER FOR SALE

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REBUILT MARINE ENGINES

Rebuilt marine engines with new cylinder blocks, manifold, head, etc. 100 engines, 5 to 1400 hp. Diesel starters, new \$35.00. Surplus parts, new blocks, manifolds. 28' x 12' work boat hull, \$300.00. Helwege Rebuilt Marine Engine Co., 741 Ocean Ave., Freeport, N. Y.

TRAWLER "VAN" FOR SALE

Trawler *Van*, 50' long, 14' beam, 6-71 GM. Completely rebuilt, fully equipped with Loran RCA depth recorder, Raytheon Fathometer and RCA telephone. John Schmidt, P. O. Box 728, Mattituck, L. I., N. Y. Mattituck 9-4981.

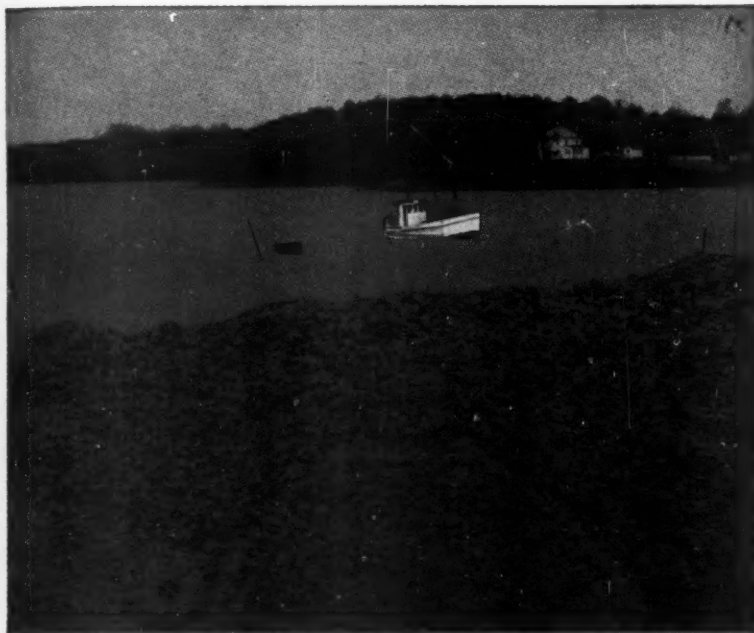
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JOSEPH ROY KING owns two Chrysler-powered boats, has operated Chrysler Engines for 12 years: "I depend on plenty of power," says King. "My Chrysler Engines give me power when I need it — and no trouble."



LEWIS WYNDER BROWN has owned a Chrysler-powered boat for 13 years. "I've never lost a day's work with the engine," Brown says. "She has never failed to kick over. She handles well and idles sweet."



J. W. FERGUSON has been oystering for 32 years, now owns three Chrysler-powered boats. "Chrysler Engines have always given me trouble-free performance," says Ferguson. "Two years ago I sold my son a 14-year-old Chrysler engine. She's still a smooth running engine today. All we've ever done is change the rings."

Dept. 3J, Marine Engine Division
Chrysler Corporation, Detroit 31, Michigan

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